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ABSTRACT

This report, the University of Calgary cost study, determines whether the enrollment weights used presently in the distribution formula fairly reflect the costs of the various student programs. The study was composed of three separate components: university activity analysis, activity cost synthesis, and cost per student synthesis. The results of the study are relative costs of student academic program categories. These costs are presented with comparisons for 1969-70, 1970-71, and 1971-72. The dollar cost per full-time student for each of these categories and the number of students in each of these categories are also included. (MJM)

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OFFICE OF INSTITUTIONAL RESEARCH

Project 1144
July 19, 1974

Mr. H. W. Bliss
Vice-President (Finance)
The University of Calgary

Dear Mr. Bliss:

This report contains the results of The University of Calgary Cost Study for the year 1972/73 in response to the Board of Governors motion of October 10, 1972, that "the Business and Finance Committee of the Board approve the undertaking of annual cost studies of the University's operating costs."

This document also contains the objectives of the study, methodology employed, comparative results for the past three years, and the questionnaires used to gather academic staff workload distribution information.

In an effort to assist the reader in obtaining a full appreciation of the methodology so that results can be correctly interpreted, the report documents the methodology in detail. The methodology is essentially the same as that used in earlier studies (OIR Reports 61, 74, and 89), and was discussed with many groups from whom we sought advice and guidance, in particular the Cost Study Steering Committee.

Yours sincerely,

M. G. Michaels
Acting Director

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TABLE OF CONTENTS

1. INTRODUCTION AND OBJECTIVES 1

2. METHODOLOGY 3

2.1 Methdological Framework 3

2.2 Phase I--Step 1: Define the Activities of the University and Determine the Extent to Which Each University Department Participates in Each Activity 4

2.3 Phase II--Step 1: Assign the Direct Expenses of Each Department to the Activities in Which the Department Participates 11

2.4 Phase II--Step 2: Allocate Departmental Expenditures Contributing to the Activity of Physical Facilities Maintenance to Other University-Wide Support Activities and to the Activity of Department Administration in Each of the Academic Departments 13

2.5 Phase II--Step 3: Allocate Departmental Expenditures Contributing to the Activity of Academic Support Services to Other University-Wide Support Activities and to the Activities of Academic Departments on the Basis of Departmental Usage. 13

2.6 Phase II--Step 4: Allocate Library Services Expenditures to Teaching Departments 13

2.7 Phase II--Step 5: Transfer the Departmental Activity Cost of Library Services to the Departmental Activities of Instruction and Supervision of Graduate Student Research and Thesis Work 17

2.8 Phase II--Step 6: Transfer the Departmental Activity Cost of Department Administration to the Departmental Activities of Instruction, Research and Supervision of Graduate Student Research and Thesis Work 17

2.9 Phase II--Step 7: Transfer the Departmental Activity Cost of Research to the Departmental Activities of Instruction and Supervision of Graduate Student Research and Thesis Work 20

2.10 Phase II--Step 8: Consolidate Departmental Cost Contributions to the University-Wide Activities of University Administration and Student, Public and Community Services 20

2.11 Phase II--Step 9: Consolidate Departmental Cost Contributions to the Activity of Faculty Administration . . . 20

BEST COPY AVAILABLE

2.12 Phase III--Step 1: Transfer Accumulated Activity Costs for Each Level of Instruction, Research, Library Services, and Departmental Administration to Academic Programs of Students 24

2.13 Phase III--Step 2: Transfer Accumulated Activity Costs of Supervision of Graduate Student Research and Thesis Work, Graduate Students' Assistance and Faculty Administration to Academic Programs of Students 24

2.14 Phase III--Step 3: Transfer Accumulated Activity Costs of University Administration, and Student, Public and Community Services to Academic Programs of Students 27

2.15 Phase III--Step 4: Sum Activity Costs per Student 27

3. RESULTS 31

APPENDIX A QUESTIONNAIRES 38

APPENDIX B UNIT COSTS OF STUDENT ACADEMIC PROGRAMS 46

BIBLIOGRAPHY 56

BEST COPY AVAILABLE

THE UNIVERSITY OF CALGARY COST STUDY 1972/73

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Office of Institutional Research
The University of Calgary

July 1974

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NOTE

THE ACADEMIC PROGRAM COSTS DETERMINED BY THIS STUDY SHOULD BE INTERPRETED ONLY WITHIN THE CONTEXT OF THE OBJECTIVES OF THE STUDY AND THE RELATED METHODOLOGY DESCRIBED IN THIS REPORT

CHAPTER I

1. INTRODUCTION AND OBJECTIVES

Formula financing as a method of distributing provincial government grants to the three Alberta Universities was introduced in the fiscal year 1967/68. This approach weights student enrolments, in various categories of student academic programs, to reflect salient differences in the operating costs of educating students in these programs. The resulting weighted enrolment known as "enrolment units" are then used as the basis for what is essentially a proportional distribution of operating funds.

In 1970 the then Alberta Universities Commission[1] commenced an investigation to determine whether the enrolment weights at present used in the distribution formula fairly reflect the costs of the various student programs, and invited The University of Alberta and The University of Calgary to participate in the analysis by undertaking comparative cost studies.[2] The objective of this study is explained by President A. W. R. Carrothers in his March 26, 1970 letter to department heads.

> The Alberta Universities Commission is planning to review the enrolment weight structure used in the distribution of operating funds to the Universities. The University of Alberta has recently undertaken a study to determine its costs of providing education for winter day students. In order that the Universities Commission has a balanced view of costs throughout the University system, it is imperative that similar costs at The University of Calgary be known. Therefore, I have asked the Office of Institutional Research to complete as quickly as possible a similar study of The University of Calgary's academic program costs. It will be possible from the results of this study to determine whether the present weighting

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[1] The Alberta Provincial Government Department of Advanced Education succeeded the Alberta Universities Commission in 1973.

[2] The results of the study performed at The University of Alberta are published in The University of Alberta Cost Study 1971/72 (Edmonton, Alberta: Office of Institutional Research and Planning, The University of Alberta, 1973.)

CHAPTER II

2. METHODOLOGY

2.1 Methodological Framework

The methodology of The University of Calgary Cost Study is based on three premises:

a) Institutional outputs are the result of institutional activities.

b) Institutional activities are sustained by resource allocations.

c) The cost of institutional outputs are measured as the sum of the costs of the resource contributions of the activities producing the outputs.

Each of these premises translates into a separate component of the study described briefly as follows:

PHASE I: UNIVERSITY ACTIVITY ANALYSIS

A set of university activities is defined and estimates are made of the extent to which each organizational unit contributes to each activity.

PHASE II: ACTIVITY COST SYNTHESIS

The costs of the activities of the university are determined by relating the resource allocations of each organizational unit to the activities undertaken by each of them.

PHASE III: COST PER STUDENT SYNTHESIS

The costs of the university activities are translated into costs per student academic program and summed to yield institutional cost per student.

The above phases further divide into a series of fourteen steps described and illustrated below:

THE READER MAY ACQUIRE AN OVERALL APPRECIATION OF THE METHODOLOGY BY EXAMINING EACH OF THE FOLLOWING FOURTEEN DIAGRAMS. IT IS NOT NECESSARY TO READ THE ACCOMPANYING PAGES OF TEXT UNLESS ONE WANTS TO OBTAIN A DETAILED UNDERSTANDING OF THE METHODOLOGY.

2.2 Phase I--Step 1: Define the Activities of the University and Determine the Extent to Which Each University Department Participates in Each Activity

For purposes of the cost study the activities of the University are defined to be Instruction, Supervision of Graduate Student Research and Thesis Work, Graduate Students' Assistance, Research, Department Administration, Faculty Administration, University Administration, Student, Public and Community Services, Library Services, Academic Support Services, and Physical Facilities Maintenance. Definitions for each are as follows:

Instruction -- Instruction is the total activity of teaching students in formal courses and supervised study. It includes direct preparation for class, lecture, demonstrations, and laboratory experiments. It also includes interaction with students in relation to their instruction, such as academic counselling and special review or coaching, and all forms of evaluation, such as correcting papers and determining grades. It does not include supervision of graduate student theses and dissertation work. Three levels or subdivisions of the Instruction activity are identified.[1]

a) junior level instruction
b) senior level instruction
c) graduate level instruction

Supervision of Graduate Student Research and Thesis Work -- Supervision of Graduate Student Research and Thesis Work consists of all activities that provide direction to graduate students in their research and thesis work. It includes evaluation of dissertations, the examination of students' research abilities, and research activity with one or more apprentice researchers for whom this research involvement is part of their formal educational program and for whom the principle investigator plays the role not only of research administrator but of preceptor as well. Two subcategories are identified with this category:

a) Supervision of Graduate Student Research and Thesis Work: Masters and Lower Doctoral
b) Supervision of Graduate Student Research and Thesis Work: Upper Doctoral

[1] Instruction levels are determined using the course numbering series shown in Table 1.

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PHASE I: UNIVERSITY ACTIVITY ANALYSIS

STEP 1 DEFINE THE ACTIVITIES OF THE UNIVERSITY AND DETERMINE THE EXTENT TO WHICH EACH UNIVERSITY DEPARTMENT PARTICIPATES IN EACH ACTIVITY.

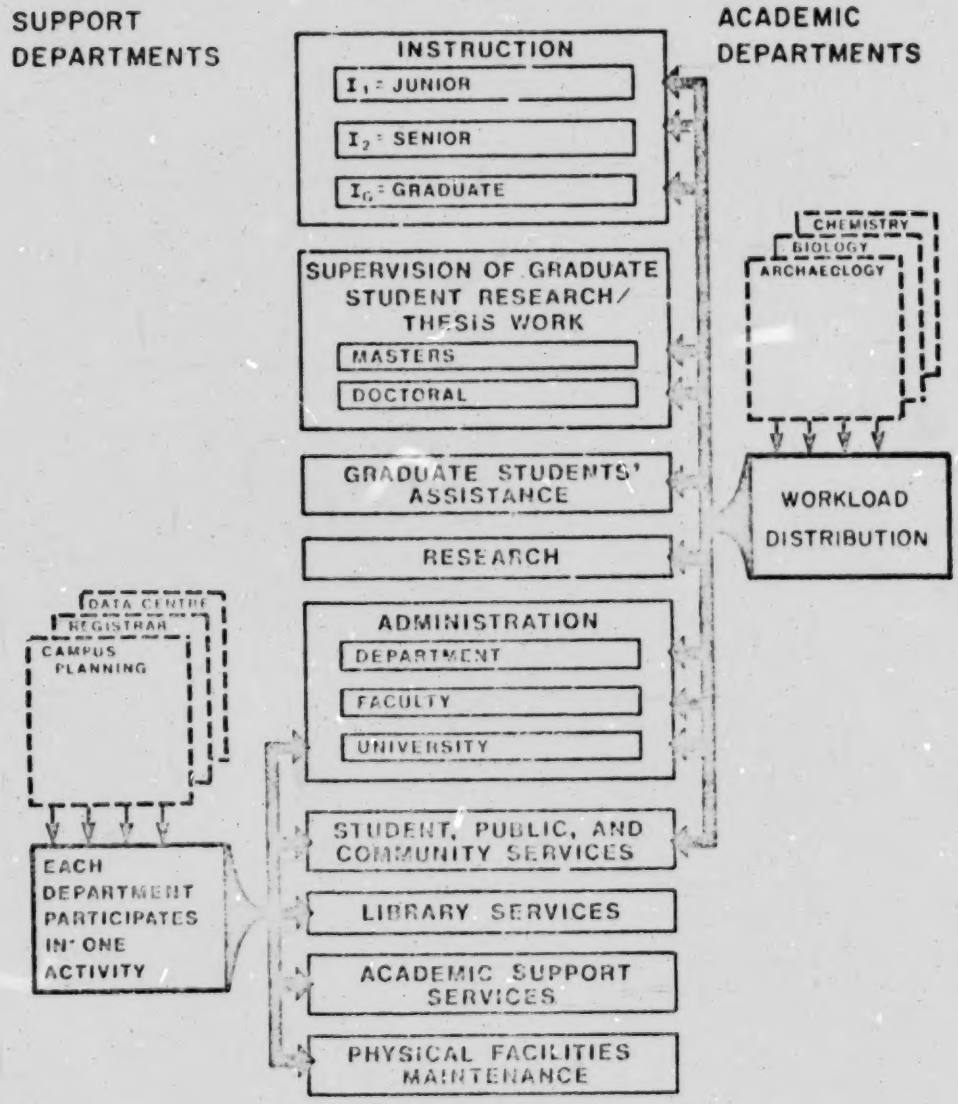

TABLE I

COURSE LEVEL CODINGS
1973/73

DEPARTMENT	JUNIOR	SENIOR	GRADUATE
ARTS & SCIENCE			
Anthropology	100-299	300-499	500 and up
Archaeology	100-299	300-499	500 and up
Biology	100-299	300-499	500 and up
Chemistry	100-299	300-599	
Classics	100-299	300-499	500 and up
Economics	100-299	300-599	600 and up
English	100-299	300-499	500 and up
Geography	100-299	300-499	500 and up
Geology	100-299	300-499	500 and up
Germanic & Slavic Studies	100-299	300-599	600 and up
History	100-299	300-599	
Linguistics	100-299	300-599	600 and up
Mathematics	100-299	300-499	500 and up
Philosophy	100-299	300-499	500 and up
Physics	100-299	300-499	500 and up
Political Science	100-299	300-599	600 and up
Psychology	100-299	300-599	600 and up
Romance Studies	100-299	300-499	500 and up
Sociology	100-299	300-599	
BUSINESS			
EDUCATION			
Educational Administration	100-299	300-599	600 and up
Educational Curriculum & Instruction	100-299	300-599	600 and up
Educational Foundations	100-299	300-599	600 and up
Educational Psychology	100-299	300-599	600 and up
ENGINEERING			
Chemical Engineering	100-299	300-599	600 and up
Civil Engineering	100-299	300-599	600 and up
Electrical Engineering	100-299	300-599	600 and up
Mechanical Engineering	100-299	300-599	600 and up
FINE ARTS			
Art	100-299	300-499	500 and up
Drama	100-299	300-599	600 and up
Music	100-299	300-599	600 and up
NURSING	100-299	300-599	600 and up
PHYSICAL EDUCATION	100-299	300-599	600 and up
SOCIAL WELFARE			

OIR 103
7/74

Graduate Students' Assistance -- Graduate Students' Assistance is a pseudo-activity used in the study to isolate major forms of financial assistance provided to graduate students. It includes such items as remuneration paid to Graduate Teaching Assistants and Graduate Research Assistants and Intersession Bursaries. Three categories are identified:

a) Graduate Students' Assistance: Masters
b) Graduate Students' Assistance: Lower Doctoral
c) Graduate Students' Assistance: Upper Doctoral

Research -- Research encompasses the investigation or experimentation with a purpose of discovery of new facts and their correct interpretation, revision of accepted conclusions, theories, or laws, in light of newly discovered facts or the practical application of such new or revised conclusions, theories, or laws. It also includes those academic activities whose primary purpose is creative in art and scholarship such as the production of works of art, painting, ceramics, poems, plays, novels, symphonies; the direction and presentation of plays, concerts, and other performances; and creative designing in architecture and tapestries. The related activities of planning, coordination, and execution of projects, writing and editing of related papers and all presentations of results are also considered within the scope of this activity.

Administration -- Administration is the planning, coordination, direction, and control of others in regard to formulation of policy, decision-making and its implementation.

Administration is subdivided into three categories as follows:

a) Departmental Administration: this includes administrative duties of a department as they pertain to that department such as planning curriculum, scheduling courses, recruiting staff, attending meetings, etc. and related functions of support personnel.

b) Faculty Administration: this includes similar administrative duties described in Departmental Administration with the exception of the scope being the faculty rather than the department.

c) University Administration: the scope of this activity consists of all general administrative duties as they pertain to the University *in toto*. It includes the activities carried out by the President's Office, Employee Relations, Controller's Office, Registrar's Office, Campus Planning, and so forth. It also includes faculty participation in University committees such as General Faculties Council, Police Committees, etc.

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Student, Public and Community Services -- Student Services includes time spent in faculty and nonacademic student activities such as artistic, social, and athletic functions. Examples might be participation in student government committees, speaking to student audiences or participating in student debates. Public Service consists of all activities primarily intended as Services to the Community, the Province, and the Public of this and other countries in which the individual's academic and professional competence is made available to the general public or special groups. Examples would include consulting (without fee), services on community committees; editing professional journals; councils and panels.

Library Services -- This category includes the sum of those activities undertaken by the central library facility in fulfilling its role as an academic service unit. The activity of faculty members serving on library committees (except faculty employed by the library) is classified as University Administration.

Academic Support Services -- This category includes the activities of support departments which provide direct assistance to other activities of the University, such as, Instruction, Supervision of Graduate Student Research and Thesis Work, Research, and Student, Public and Community Services.

Physical Facilities Maintenance -- This category includes those activities primarily related to the maintenance and operation of the University plant undertaken by Caretaking Services, Utilities, Communications, Security, etc.

Activity participation indicators for University support departments (budget units) are all 100%. Each unit is assigned to one of the activities of University Administration, Academic Support Services, Library Services, Student, Public and Community Services and Physical Facilities Maintenance by judgemental assignment as per Table II.

Determination of activity involvement for teaching academic departments is done by staff expenditure category.[1] The annual report of Faculty Member (Appendix A) is used as the basic data source for indicators of

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[1]The activities of Faculty Administration, University Administration and Student, Public and Community Services only are considered valid for staff expenditure categories in nonteaching academic departments.

TABLE II

SUPPORT DEPARTMENT ACTIVITY ASSIGNMENT[1]

I. University Administration --
- (1) Academic Secretary
- (2) Administrative Systems
- (3) Board of Governors
- (4) Calgary and Region Educational Television
- (5) Campus Planning
- (6) Central Stores and Shipping/Receiving
- (7) Committee on Resources, The Environment and Planning
- (8) Computer Services
- (9) Controller's Office
- (10) Employee Relations
- (11) Environmental Science Centre--Kananaskis
- (12) General Expense
- (13) Information Services
- (14) Institutional Research
- (15) Numismatic Collection
- (16) Offset Printing
- (17) Post Office
- (18) President's Office
- (19) Public Relations
- (20) Publications
- (21) Purchasing
- (22) Radio Television
- (23) Registrar's Office
- (24) Research Fund
- (25) Senate
- (26) Staff Benefits
- (27) Staff Travel
- (28) Stenographic Services
- (29) Vice-President--Academic
- (30) Vice-President--Finance
- (31) Vice-President--Services
- (32) Visiting Lecturers

II. Academic Support Services
- (1) Communications Media Services

III. Library Services
- (1) Library

IV. Student, Public and Community Service
- (1) Alumni Association
- (2) Bookstore
- (3) Director of Support Services
- (4) Food Services
- (5) Office of Fund Development
- (6) Housing
- (7) MacEwan Hall Directorate
- (8) Student Affairs
- (9) Student Counselling
- (10) Student Health Services
- (11) University Art Committee
- (12) University Theatre

V. Physical Facilities Maintenance
- (1) Campus Parking
- (2) Caretaking Services
- (3) Communications
- (4) Grounds
- (5) Maintenance
- (6) Motor Vehicle Pool
- (7) Safety Office
- (8) Security
- (9) Superintendent of Buildings and Grounds
- (10) Utilities
- (11) Works

[1] One of the considerations used in classifying the above departments is the dollar significance of their departmental operating expenditures vis-a-vis the manner in which the University activity is analyzed in the study. In cases where a department's costs are not material, relative to the total costs considered in the study, these departments have been classed in a category which permits easier cost analysis.

activity participation.[1] The results of the responses of individual faculty members are merged and average time distributions are calculated by department, staff expenditure category and activity.[2,3] For staff expenditure categories--Graduate Teaching Assistants and Postdoctoral Fellows--separate questionnaires (Appendix A) are completed by heads of departments. The results of these questionnaires are merged to produce average time distribution data by department, staff expenditure category and activity. The activity assignment of the categories Readers/Demonstrators, Consultation Fees, and Other Academic is based on consultation with individual department heads. Support Staff and Administrative Honoraria categories are assigned to Department Administration or Faculty Administration as appropriate.

Activity participation indicators are not determined for the following academic and university support departments since they are excluded from the Study: Medicine, Evening Credit, Summer Session, Banff School of Fine Arts and Continuing Education.

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[1]The President's Office revised the Annual Report of Faculty Member for the year 1972/73 to improve its usefulness for the annual assessment of promotion committees. These revisions include (a) changing the reporting period from July 1 - June 30 to September 1 - August 31 and (b) replacing the activity definitions per Phase II--Step 1 by appropriate references to the faculty appointment policy section of the Handbook for Faculty. Comparisons of the time distribution results for the year 1972/73 with those of earlier years did not reveal significant differences.

[2]Staff expenditure categories are: Deans/Directors, Professors, Associate Professors, Assistant Professors, Instructors/Lecturers, Other Full-Time Permanent, Faculty on Leave, Full-Time Sessional and Part-Time Sessional. For the rank classification of Faculty on Leave, the activity of University Administration receives 100% of the time distribution.

[3]For the Instruction activity, average time distributions by level are determined by sorting each faculty member's course instruction percents into instruction levels of junior, senior or graduate based on course numbers per Table 1. Instruction percents by level and faculty member for each staff expenditure category are then averaged to produce the required time distribution by department, staff expenditure category and activity.

2.3 Phase II--Step 1: Assign the Direct Expenses of Each Department to the Activities in Which the Department Participates

The activity participation indicators for each department are matched with the appropriate expenditure category operating expenditures for the fiscal year ended March 31st, 1973. For university support departments, 100% of a department's net costs (academic salaries, support salaries, supplies and sundries and revenues) are assigned to one activity as determined in Phase I--Step 1.

For academic departments, departmental salary costs for each staff expenditure category are allocated to the activities of that department based on the time distribution, determined in Phase I. The only exception to this arises in the case of Graduate Teaching Assistants where only one half of the remuneration paid to them is assigned to activities per departmental time distributions--the remaining one half is assigned to the activity of Graduate Students' Assistance.[1] The remaining costs of academic departments, supplies and sundries, are assigned to department activities, excluding Graduate Students' Assistance, based on accumulated dollars of academic salaries and support salaries already allocated to each activity in each department. The one exception to this is in the Faculty of Graduate Studies where the supplies and sundries cost categories of Graduate Research Assistants, Graduate Service Assistants, Dissertation Fellowships, Intersession Bursaries and Remission of Fees are subcategorized into (a) Graduate Students' Assistance: Masters, (b) Graduate Students' Assistance: Lower Doctoral, and (c) Graduate Students' Assistance: Upper Doctoral, and transferred to their respective departments.

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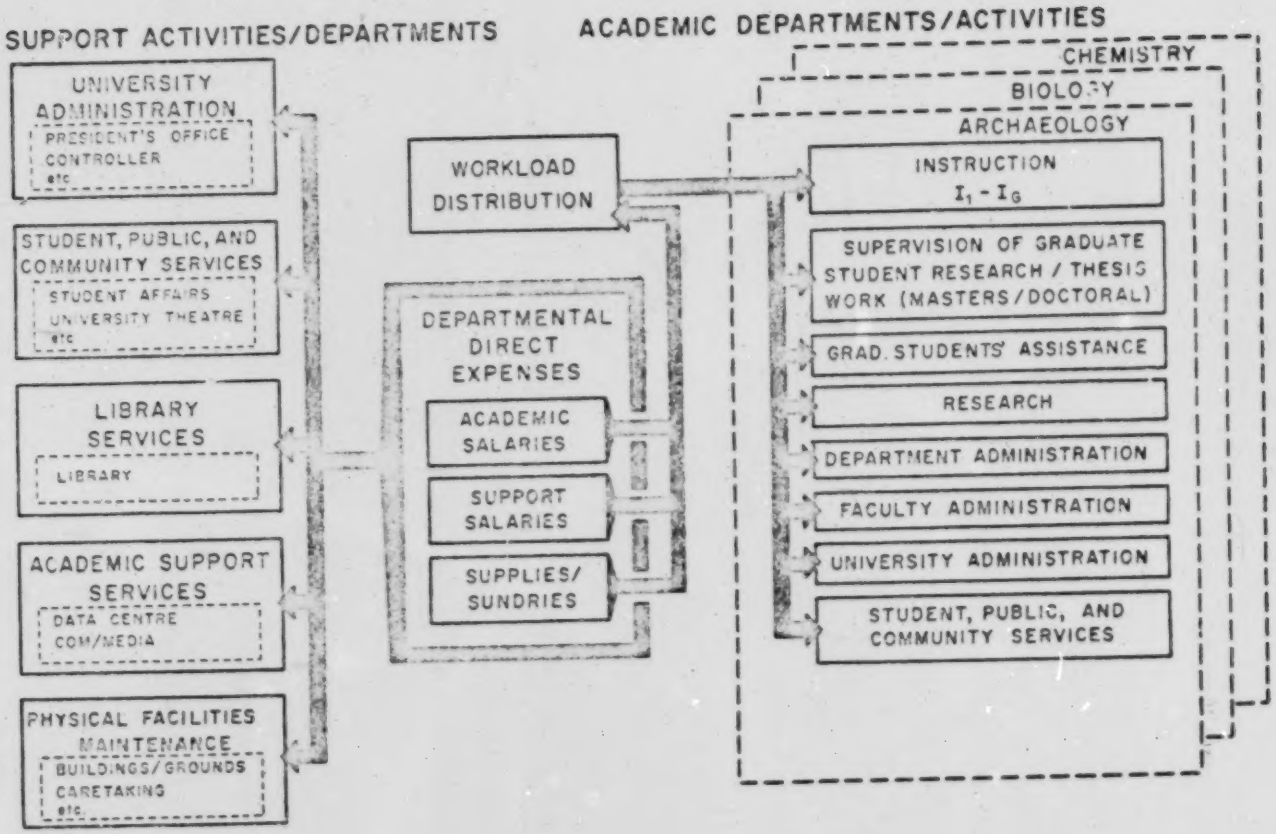
[1] One half of the Graduate Teaching Assistants' remunerations are considered scholarships and therefore are assigned to the activity of Graduate Students' Assistance.

PHASE II: ACTIVITY COST SYNTHESIS

STEP 1: ASSIGN THE DIRECT EXPENSES OF EACH DEPARTMENT TO THE ACTIVITIES IN WHICH THE DEPARTMENT PARTICIPATES.



2.4 Phase II--Step 2: Allocate Departmental Expenditures Contributing to the Activity of Physical Facilities Maintenance to Other University-Wide Support Activities and to the Activity of Department Administration in Each of the Academic Departments

The total operating expenses of the departments contributing to the Physical Facilities Maintenance activity (Phase I--Step 1) is allocated to other university departments based on assignable square feet, where total assignable square feet is calculated as university assignable square feet less Noninstitutional, Buildings and Grounds, and Registrar's centrally scheduled classrooms.[1]

That portion of Physical Facilities Maintenance allocated to departments excluded from the study become further excluded costs. For academic departments the allocation of Physical Facilities Maintenance is carried to the activity of Department Administration or to Faculty Administration in those departments where the former is not valid. For all other departments, the cost of Physical Facilities Maintenance is added to the cost of the one activity in which each of these departments participates.

2.5 Phase II--Step 3: Allocate Departmental Expenditures Contributing to the Activity of Academic Support Services to Other University-Wide Support Activities and to the Activities of Academic Departments on the Basis of Departmental Usage

The cost of Academic Support Services includes the direct expenses of Communications Media plus the allocated portion of Physical Facilities Maintenance. Total cost for Communications Media is allocated to teaching departments based on a statement of usage provided by Communications Media.

2.6 Phase II--Step 4: Allocate Library Services Expenditures to Teaching Departments

Total direct operating expenditures of the University Library (including book acquisitions) plus the allocated portion of Physical Facilities Maintenance and Academic Support Services is allocated to the teaching

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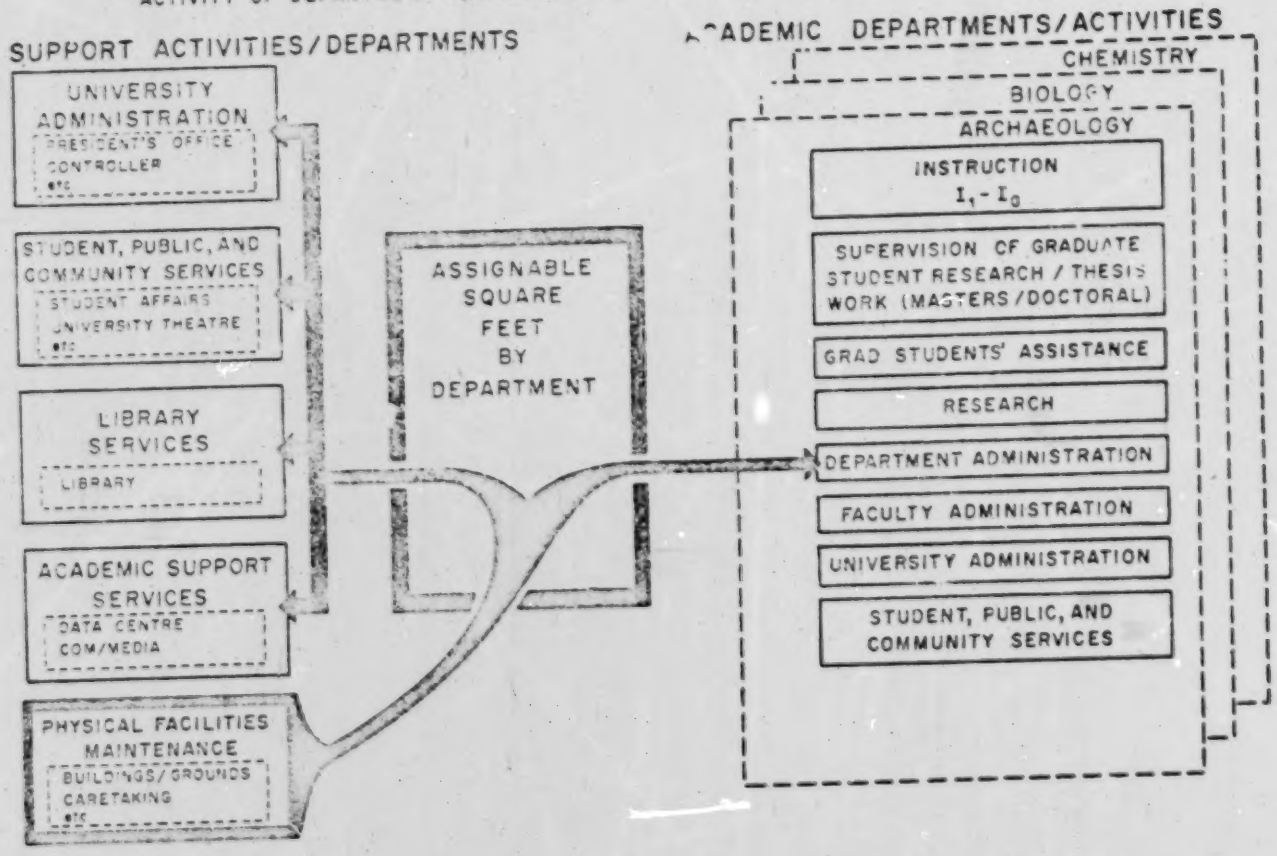
[1] Buildings and Grounds, The University of Calgary Detailed Space Inventory by Building and Department, (Calgary: The University of Calgary, October, 1972).

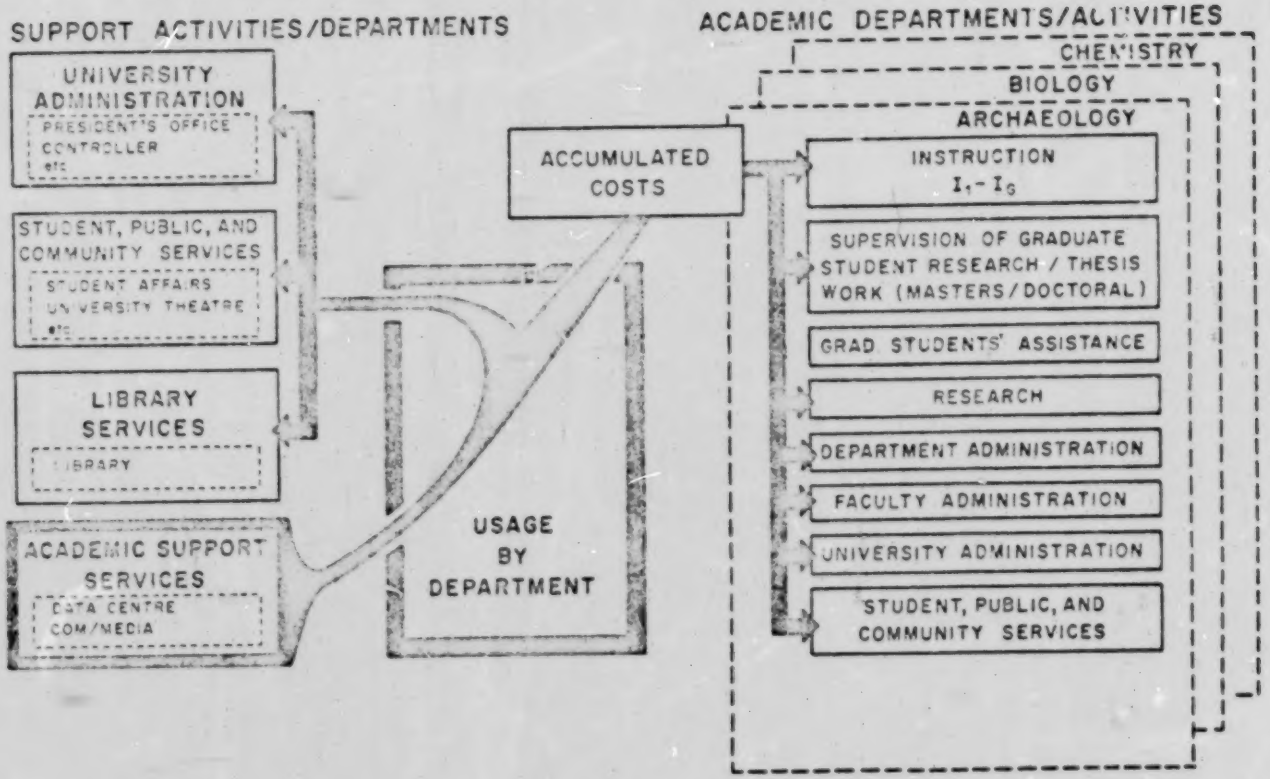
PHASE II: ACTIVITY COST SYNTHESIS

STEP 2: ALLOCATE DEPARTMENTAL EXPENDITURES CONTRIBUTING TO THE ACTIVITY OF PHYSICAL FACILITIES MAINTENANCE TO OTHER UNIVERSITY-WIDE SUPPORT ACTIVITIES AND TO THE ACTIVITY OF DEPARTMENT ADMINISTRATION IN EACH OF THE ACADEMIC DEPARTMENTS.



PHASE II: ACTIVITY COST SYNTHESIS

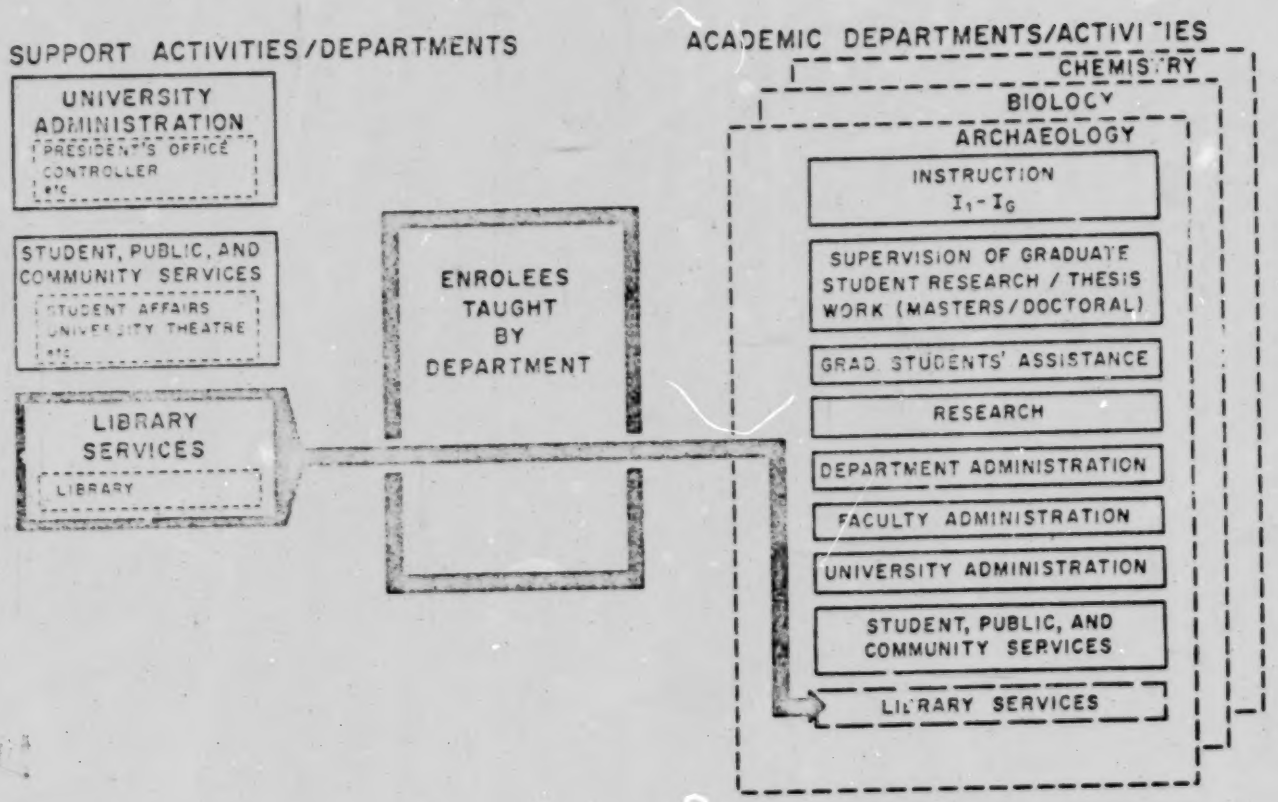
STEP 3: ALLOCATE DEPARTMENTAL EXPENDITURES CONTRIBUTING TO THE ACTIVITY OF ACADEMIC SUPPORT SERVICES TO OTHER UNIVERSITY-WIDE SUPPORT ACTIVITIES AND TO THE ACTIVITIES OF ACADEMIC DEPARTMENTS ON THE BASIS OF DEPARTMENTAL USAGE



OIR 103
7/74

PHASE II: ACTIVITY COST SYNTHESIS

STEP 4: ALLOCATE LIBRARY SERVICES EXPENDITURES TO TEACHING DEPARTMENTS.



department subset of academic departments based on enrolees taught by each department.[1]

It is important to mention that the method of handling the Library Services allocation at The University of Calgary differs substantially from the detailed procedures used by The University of Alberta. The University of Alberta allocates library expenditures to a department based upon usage. Comparable information is not available at The University of Calgary and, hence, the use of this procedure is not feasible. However, sensitivity tests yield a negligible effect in terms of output costs.[2]

2.7 Phase II--Step 5: Transfer the Departmental Activity Cost of Library Services to the Departmental Activities of Instruction and Supervision of Graduate Student Research and Thesis Work

Departmental allocations of Library Services are further allocated to the activities of Instruction and Supervision of Graduate Student Research and Thesis Work in that same department based upon costs accumulated for the same activities (academic salaries, support salaries, supplies and sundries, and Academic Support Services allocation). The allocated dollar amount is not added to the accumulated costs of Instruction and Supervision of Graduate Student Research and Thesis Work; they are kept separate to facilitate the undertaking of sensitivity tests.

2.8 Phase II--Step 6: Transfer the Departmental Activity Cost of Department Administration to the Departmental Activities of Instruction, Research and Supervision of Graduate Student Research and Thesis Work

The net direct expenses of Department Administration plus allocation of Academic Support Services and Physical Facilities Maintenance in each of the academic departments is allocated to the activities of Instruction, Supervision of Graduate Student Research and Thesis Work, and Research in that same department based upon costs already accumulated in those

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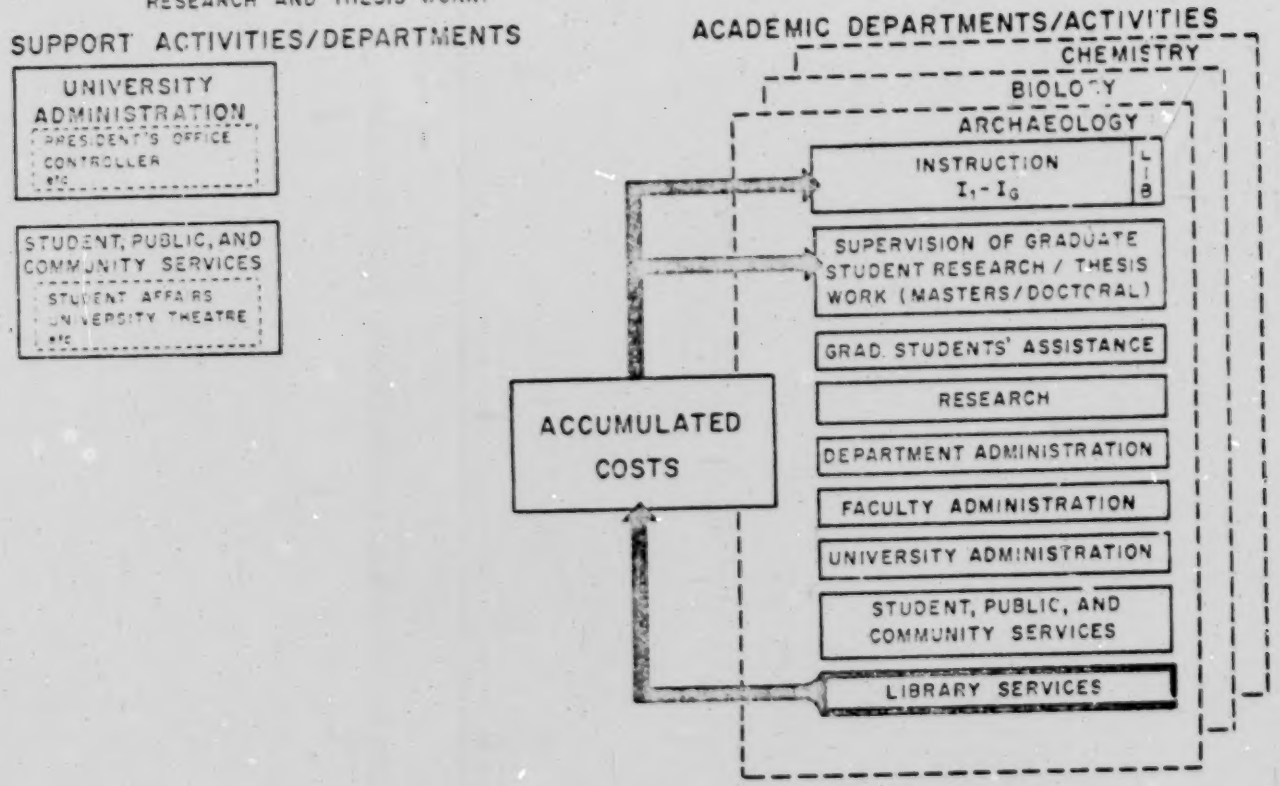
[1] Office of Institutional Research, Fact Book 1972/73, Report 102 (Calgary: The University of Calgary, April 1974).

[2] Bernard S. Sheehan and Mervin G. Michaels, "Sensitivity Tests on a University Cost Study Methodology."

OIR 103
7/74

PHASE II: ACTIVITY COST SYNTHESIS

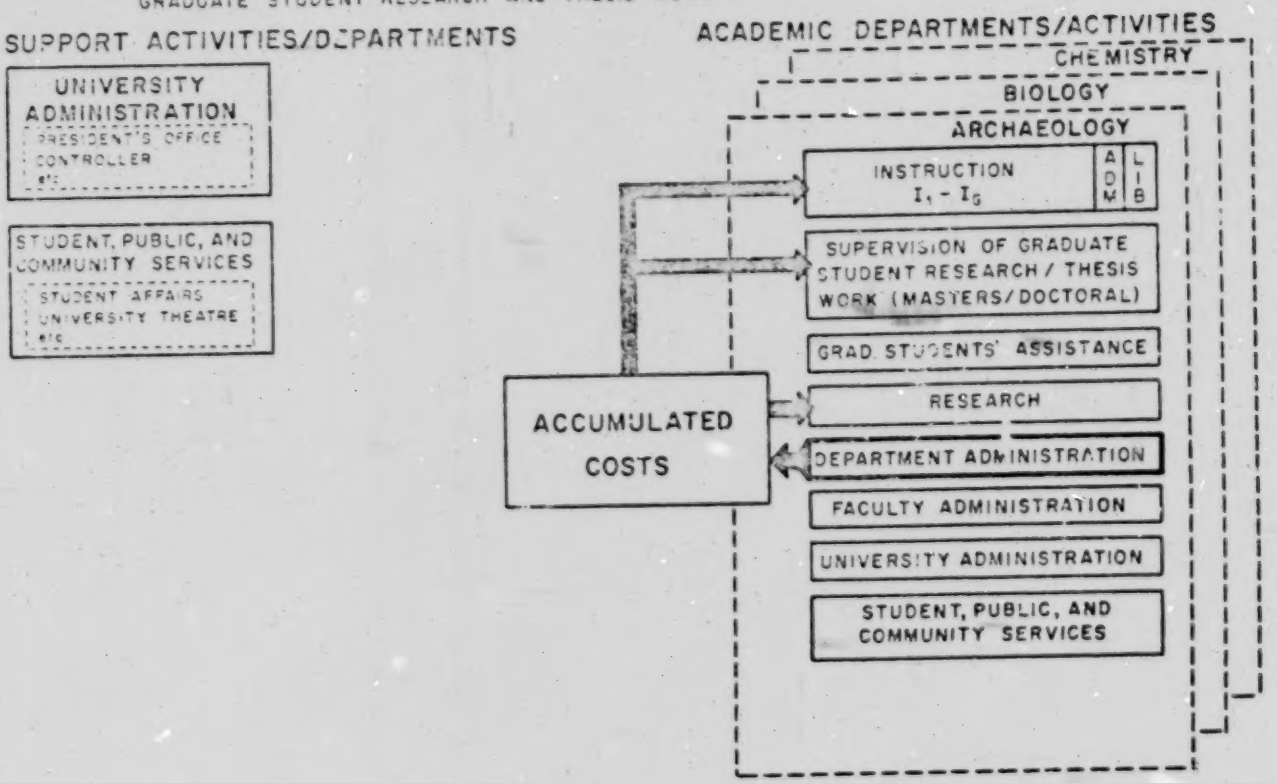
STEP 5: TRANSFER THE DEPARTMENTAL ACTIVITY COST OF LIBRARY SERVICES TO THE DEPARTMENTAL ACTIVITIES OF INSTRUCTION AND SUPERVISION OF GRADUATE STUDENT RESEARCH AND THESIS WORK.



018 103
7/74

PHASE II: ACTIVITY COST SYNTHESIS

STEP 6: TRANSFER THE DEPARTMENTAL ACTIVITY COST OF DEPARTMENT ADMINISTRATION TO THE DEPARTMENTAL ACTIVITIES OF INSTRUCTION, RESEARCH AND SUPERVISION OF GRADUATE STUDENT RESEARCH AND THESIS WORK



activities (the accumulated costs do not include the allocation of Library Services as determined in Phase II--Step 5). As in Phase II--Step 5, the cost allocations are kept separate from the activities to permit later detailed analysis.

2.9 Phase II--Step 7: Transfer the Departmental Activity Cost of Research to the Departmental Activities of Instruction and Supervision of Graduate Student Research and Thesis Work

The net direct expenses of Research plus the Academic Support Services allocation and Department Administration allocation is allocated to the activities of Instruction and Supervision of Graduate Student Research and Thesis Work in that department based upon faculty salaries in each of these activities where faculty salaries include the direct allocated cost for the staff expenditure categories of Professor, Associate Professor, Assistant Professor and Instructor/Lecturer. As in Phase II--Steps 5 and 6, the allocation of Research is not added to the instruction activity accumulated costs.

2.10 Phase II--Step 8: Consolidate Departmental Cost Contributions to the University-Wide Activities of University Administration and Student, Public and Community Services

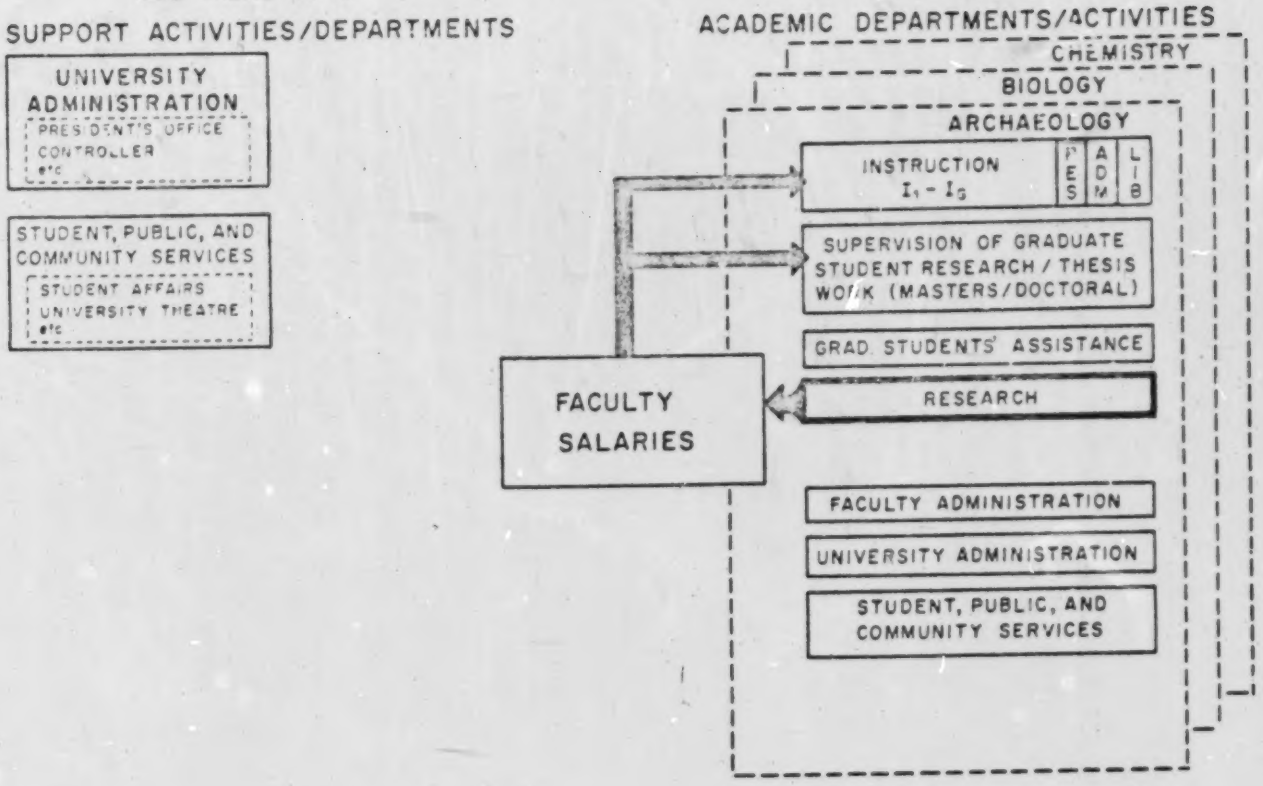
Total direct and allocated costs of support departments contributing to the activity of University Administration are pooled together with cost contributions of academic departments contributing to the same activity. Similarly, the total cost of Student, Public and Community Services are pooled from university support and academic department sources.

2.11 Phase II--Step 9: Consolidate Departmental Cost Contributions to the Activity of Faculty Administration

For each faculty, the cost contribution of each academic department in that faculty is accumulated. Hence, Faculty Administration consists of a total dollar amount for each of the Faculty of Arts and Science, Faculty of Business, School of Physical Education, and so forth.

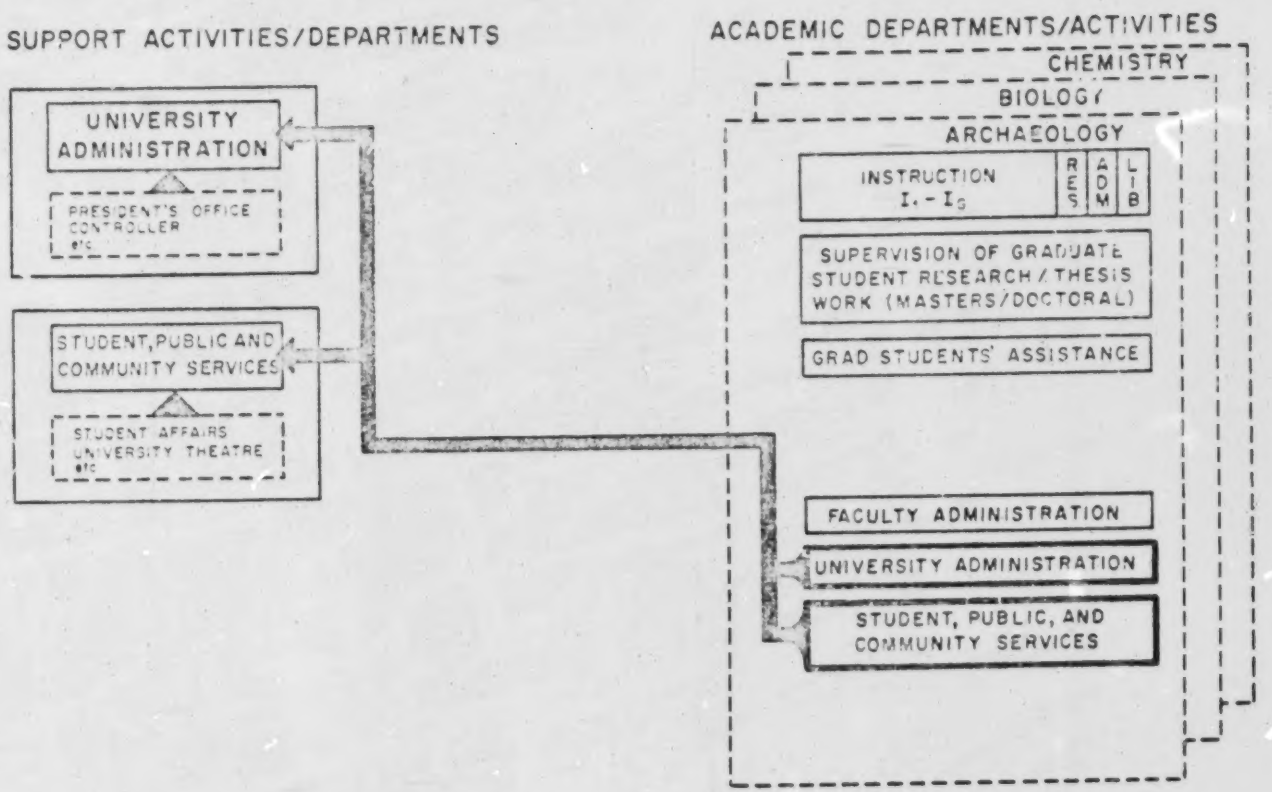
PHASE II: ACTIVITY COST SYNTHESIS

STEP 7: TRANSFER THE DEPARTMENTAL ACTIVITY COST OF RESEARCH TO THE DEPARTMENTAL ACTIVITIES OF INSTRUCTION AND SUPERVISION OF GRADUATE STUDENT RESEARCH AND THESIS WORK



PHASE II: ACTIVITY COST SYNTHESIS

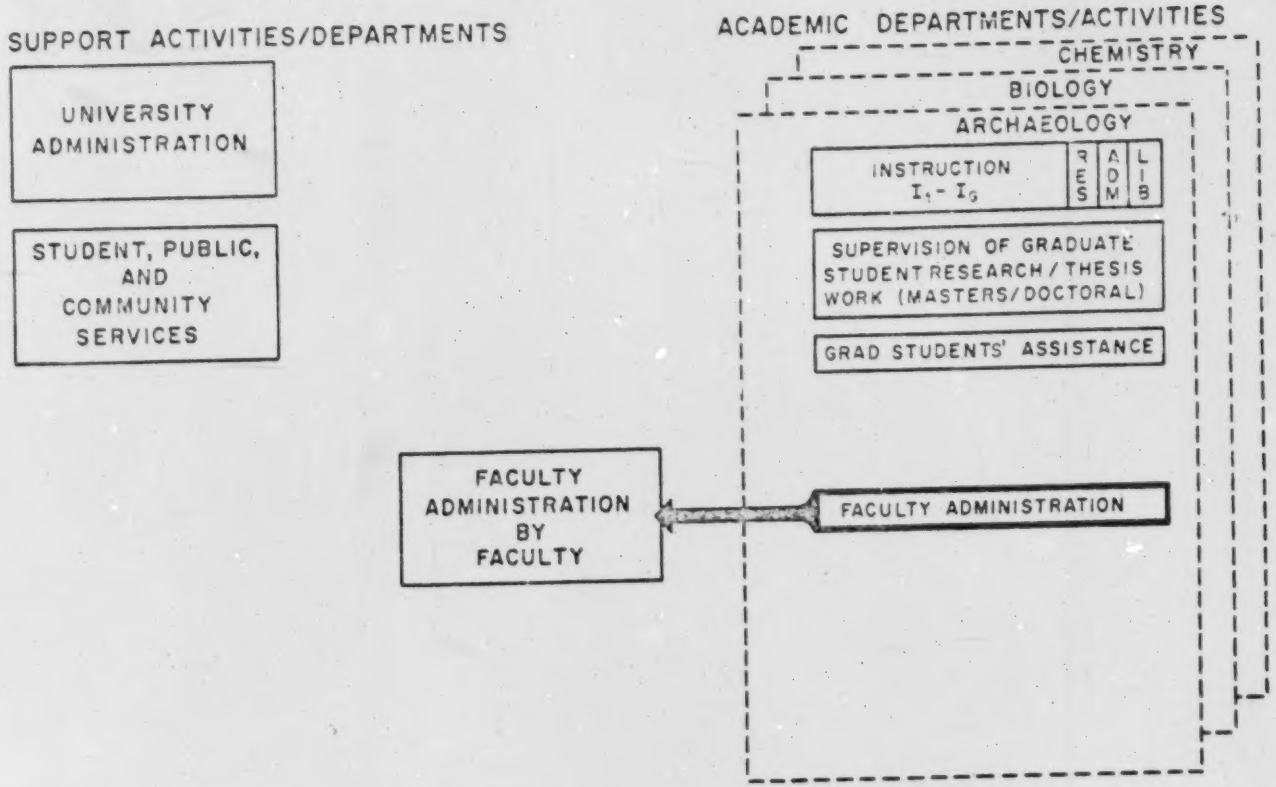
STEP 8: CONSOLIDATE DEPARTMENTAL COST CONTRIBUTIONS TO THE UNIVERSITY-WIDE ACTIVITIES OF UNIVERSITY ADMINISTRATION AND STUDENT, PUBLIC, AND COMMUNITY SERVICES



OIR 103
7/74

PHASE II: ACTIVITY COST SYNTHESIS

STEP 9: CONSOLIDATE DEPARTMENTAL COST CONTRIBUTIONS TO THE ACTIVITY OF FACULTY ADMINISTRATION



2.12 Phase III--Step 1: Transfer Accumulated Activity Costs for Each Level of Instruction, Research, Library Services, and Departmental Administration to Academic Programs of Students

This step and the following two steps are the most critical in the methodology. They describe how activity costs are related to student academic programs.

For each level of instruction within each teaching department, a unit value called "teaching unit" is calculated for each section of a course taught by that department. The formula used in calculating teaching units is as follows:

$$TU_{i,jk} = \left[\frac{LH_{i,jk} \cdot LS_{i,jk}}{3} + \frac{BH_{i,jk} \cdot BS_{i,jk}}{6}\right] \cdot W$$

where

TU = teaching units
LH = lecture hours
LS = lecture section
BH = laboratory hours
BS = laboratory sections
W = term weight (1 and 1/2)
i = teaching department
j = instruction level
k = section

Costs of Instruction in each level are distributed to each course taught by a department at that level in proportion to the number of teaching units generated by the sections taught in that course. The resulting course costs by department then become input to a crossover matrix which calculates costs for every course enrolee and transfers these costs to academic programs of students differentiated in terms of faculty, degree sought, major, registration status and year of studies.

Similarly, Research, Library Services and Department Administration costs by level of instruction are transferred to student academic programs of studies.

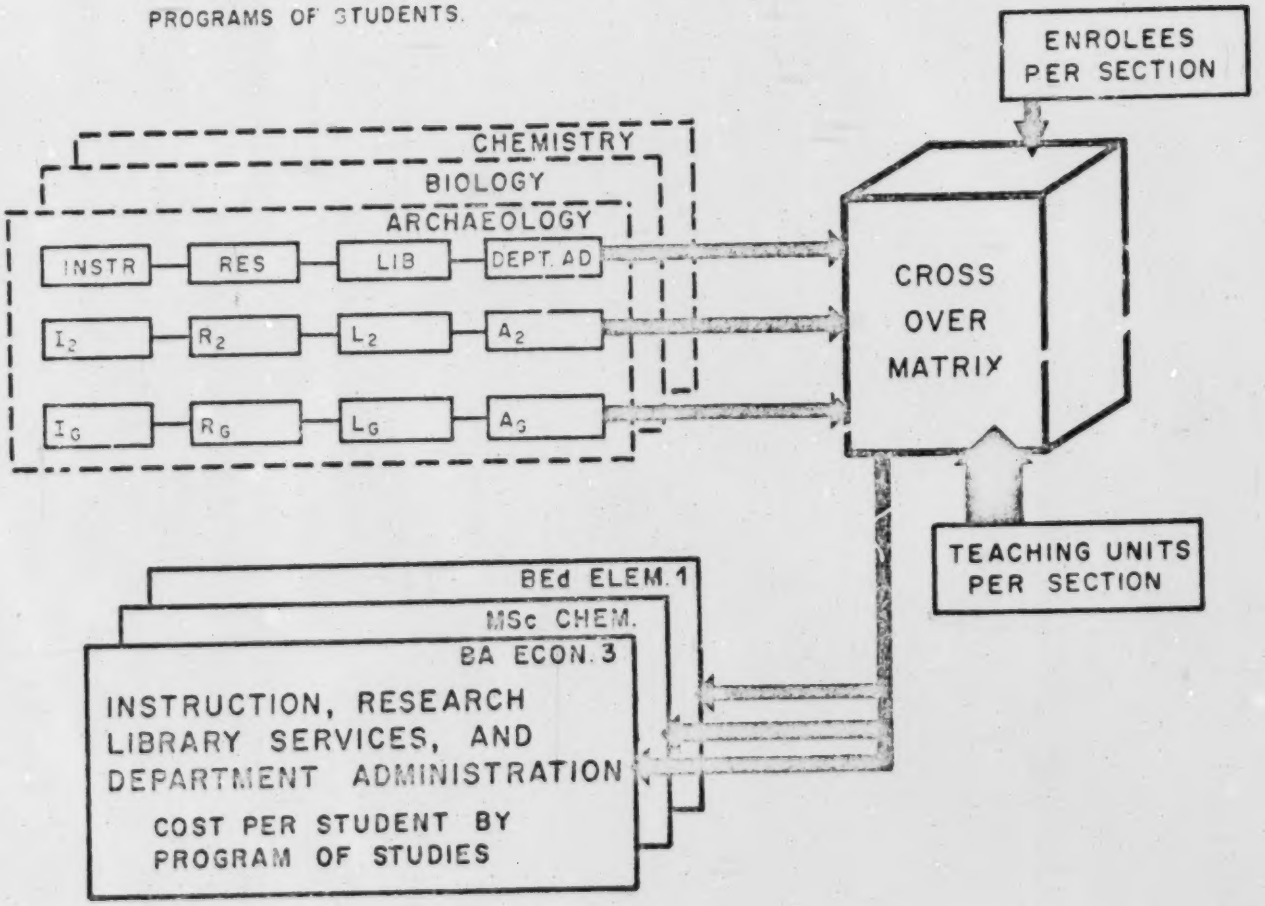
2.13 Phase III--Step 2: Transfer Accumulated Activity Costs of Supervision of Graduate Student Research and Thesis Work, Graduate Students' Assistance and Faculty Administration to Academic Programs of Students

The cost of Supervision of Graduate Student Research and Thesis Work: Masters and Lower Doctoral and Supervision of Graduate Student Research and

OIR 103
7/74

PHASE III : COST PER STUDENT SYNTHESIS

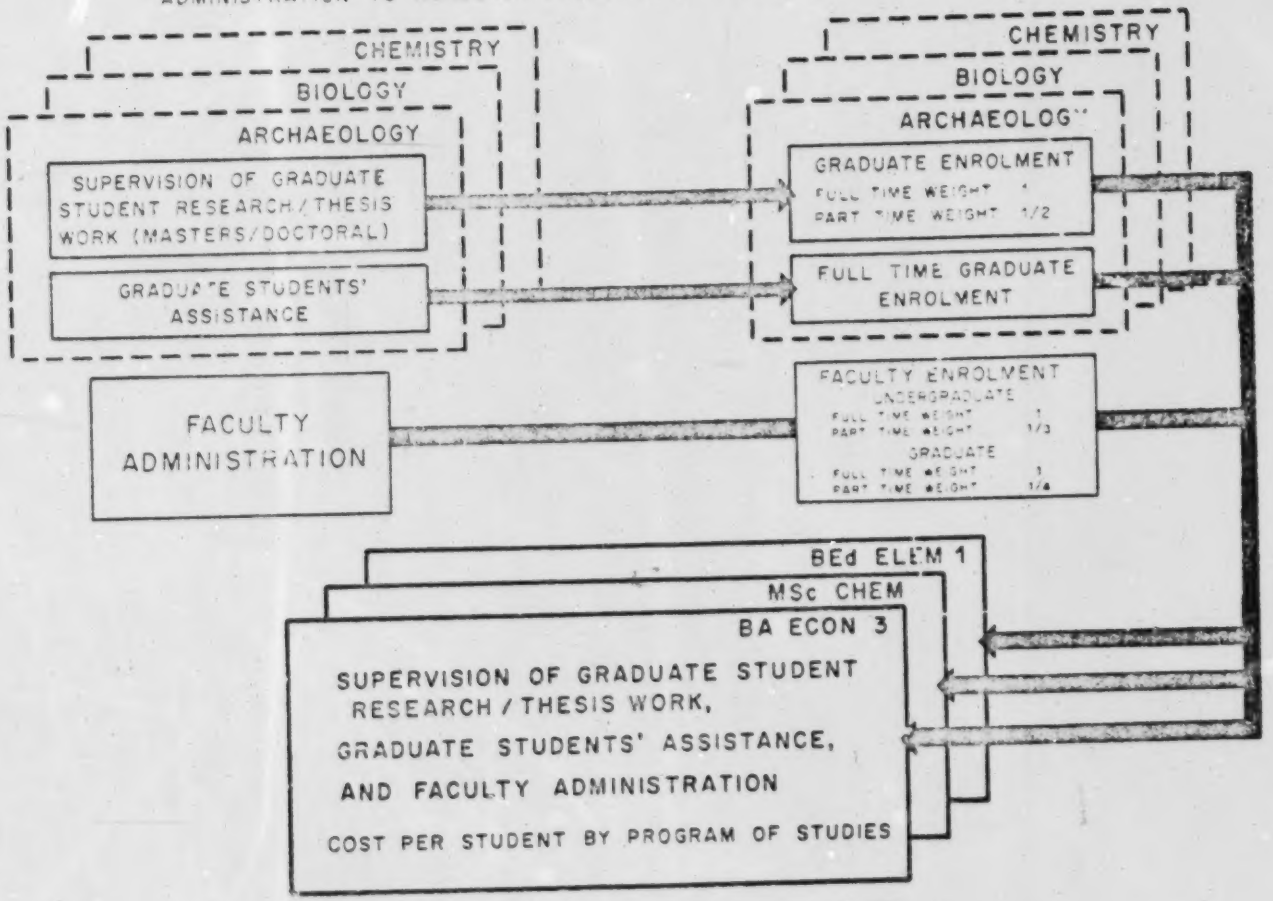
STEP 1: TRANSFER ACCUMULATED ACTIVITY COSTS FOR EACH LEVEL OF INSTRUCTION, RESEARCH, LIBRARY SERVICES, AND DEPARTMENT ADMINISTRATION TO ACADEMIC PROGRAMS OF STUDENTS.



OIR 103
1/76

PHASE III: COST PER STUDENT SYNTHESIS

STEP 2: TRANSFER ACCUMULATED ACTIVITY COSTS OF SUPERVISION OF GRADUATE STUDENT RESEARCH AND THESIS WORK, GRADUATE STUDENTS' ASSISTANCE, AND FACULTY ADMINISTRATION TO ACADEMIC PROGRAMS OF STUDENTS



Thesis Work: Upper Doctoral in each department is proportionately assigned to academic programs of graduate students whose programs are administered by that department, where full-time students receive a weight of 1 and part-time students receive a weight of 1/2. Departmental costs of Graduate students' Assistance (Masters, Lower Doctoral and Upper Doctoral) are allocated to academic programs of full-time graduate students within that department where each student in each of the above three categories receives a proportional amount of the cost of that category. Similarly, Faculty Administration costs are assigned to students' academic programs on a proportionate basis where the full-time undergraduate students receive a weight of 1 and part-time undergraduate students receive a weight of 1/3, full-time graduate students receive a weight of 1 and part-time graduate students receive a weight of 1/4.

2.14 Phase III--Step 3: Transfer Accumulated Activity Costs of University Administration, and Student, Public and Community Services to Academic Programs of Students

University Administration costs and Student, Public and Community Services costs are allocated to student academic programs where undergraduate full-time students receive a weight of 1, undergraduate part-time students receive a weight of 1/4, graduate full-time students receive a weight of 1 and graduate part-time students receive a weight of 1/3. Prior to allocating University Administration costs and Student, Public and Community Services costs, a portion of the total pool is excluded from the study on the assumption that it relates to summer school students and evening credit students which are outside the scope of this study. The method used to exclude these costs is enrolees taught.[1]

2.15 Phase III--Step 4: Sum Activity Costs per Student

Cost per student academic program in each of the aforementioned nine categories (Instruction, Research, Library Services, Department Administration,

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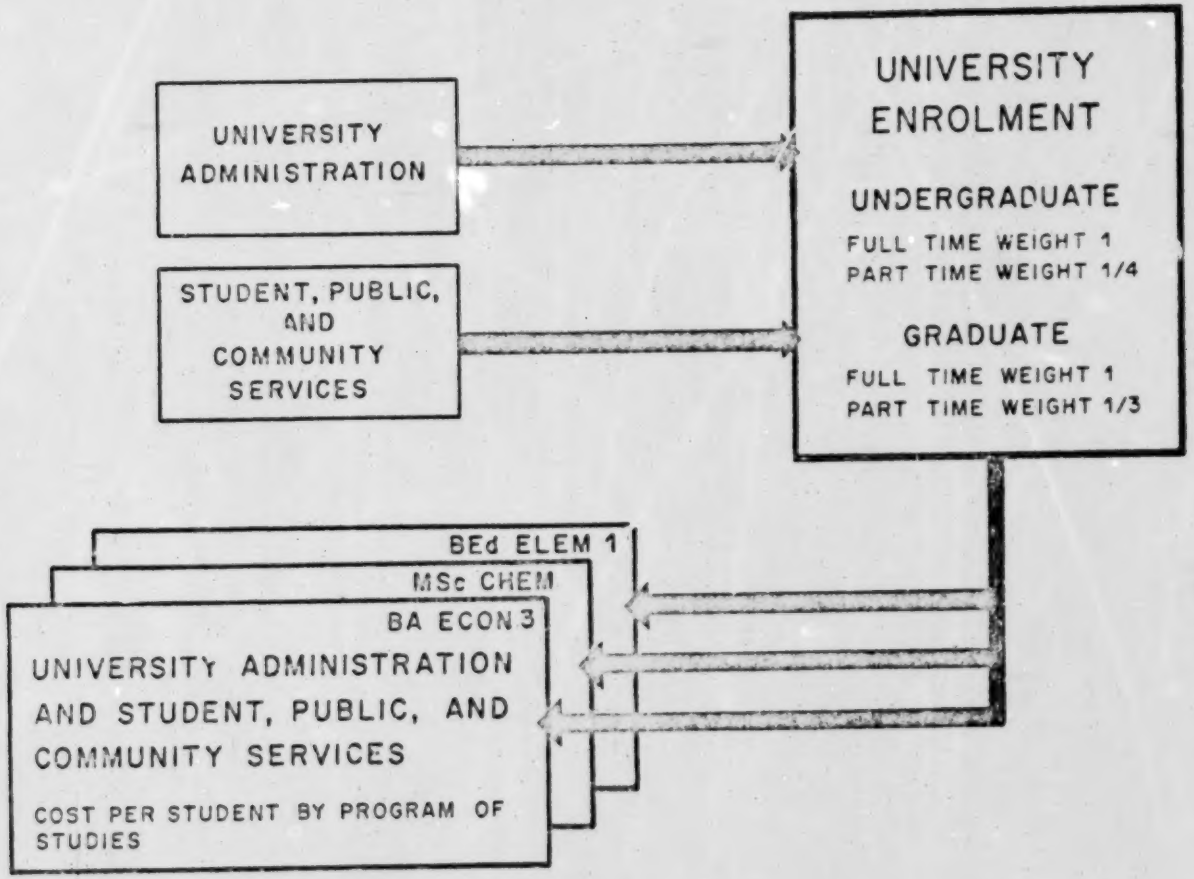
[1] Office of Institutional Research, Report 102.

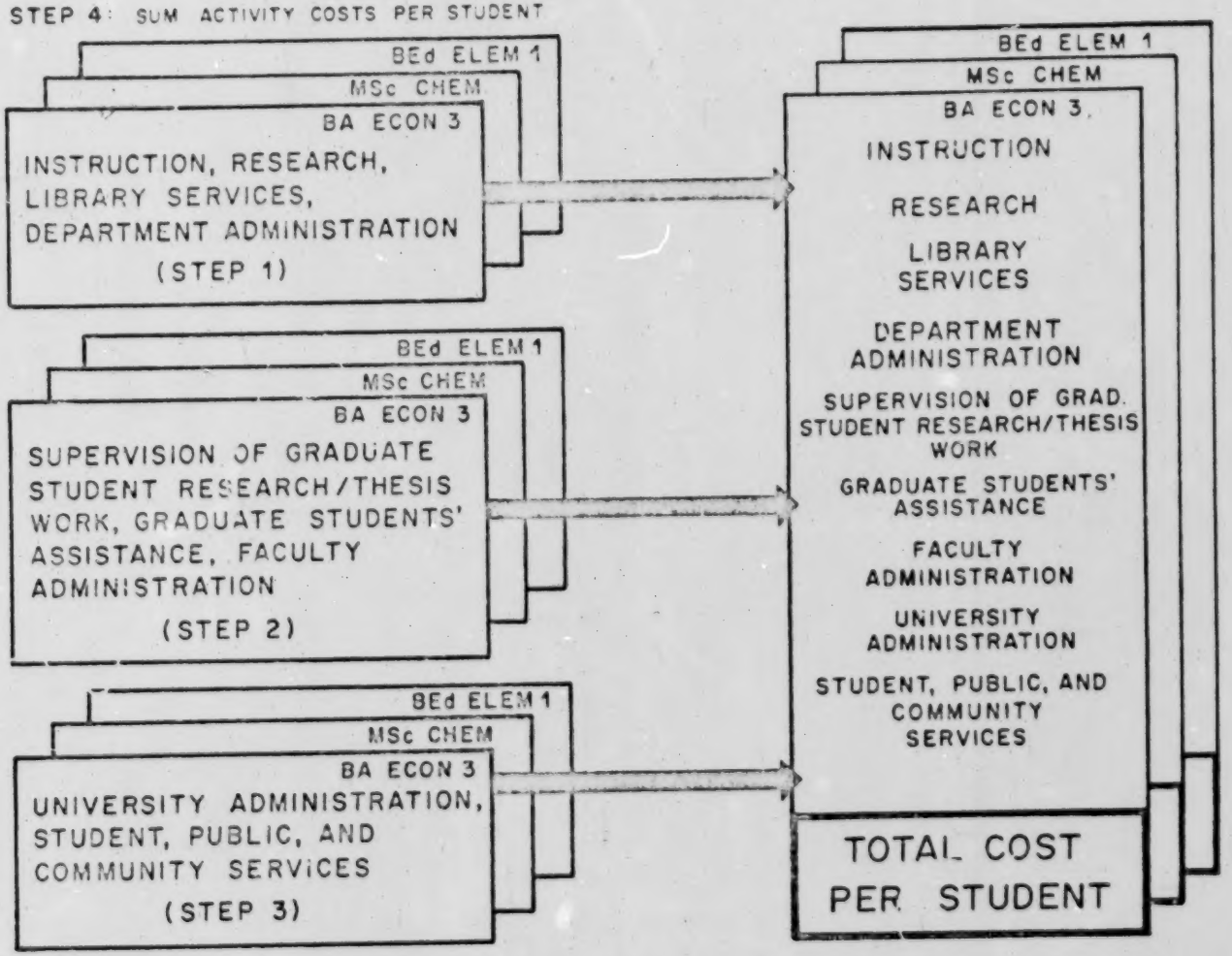
PHASE III : COST PER STUDENT SYNTHESIS

STEP 3. TRANSFER ACCUMULATED ACTIVITY COSTS OF UNIVERSITY ADMINISTRATION, AND STUDENT, PUBLIC, AND COMMUNITY SERVICES TO ACADEMIC PROGRAMS OF STUDENTS.



PHASE III : COST PER STUDENT SYNTHESIS

STEP 4: SUM ACTIVITY COSTS PER STUDENT



Supervision of Graduate Student Research and Thesis Work, Graduate Students' Assistance, Faculty Administration, University Administration, and Student, Public and Community Services) are accumulated for each of the academic programs. The result of these accumulations are found in Appendix B.

CHAPTER III

3. RESULTS

The primary results of this study are relative costs of student academic program categories. These costs are presented in Table III with comparisons for 1969/70, 1970/71, and 1971/72.[1] The dollar cost per full-time student in each of these categories for the years 1969/70 to 1972/73 is presented in Table IV and the number of students in each of these categories is given in Table V.

In interpreting the results of the study, it is important that the reader keep in mind the objectives of this study, notably, "to determine whether the present weighting formula fairly reflects costs at The University of Calgary and thus provide the basis for future discussions . . . regarding possible revisions of the formula." To accomplish this objective, it is necessary to use a total cost approach whereby all costs, funded by the Provincial Government, are assumed to relate to the funding variable "students." Use of this approach should not be construed to imply that Instruction is the only program of the University nor that cost per student academic

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[1] In making operating funds allocations to the Alberta Universities, the Provincial Government categorizes student enrolments into student academic program categories. Each of these categories translates into one or more student academic programs at the Alberta Universities. The relative costs of this study are compiled for each of the Provincial Government's student academic program categories by first taking a weighted average of the cost per full-time student in the corresponding University of Calgary student academic programs. The ratio of each of the Provincial Government's student academic program categories to the base category of General Arts and Science Year 1 and Pass Arts Year 1 is then determined to yield relative costs. In the 1969/70 Cost Study, the base category used was Pass Arts Year 1. However, a change in The University of Calgary program whereby all freshman Arts and Science students are required to enroll in General Arts and Science Year 1 necessitates this change in the methodology.

Table I, Appendix B, lists for each of the Provincial Government's student academic program categories the corresponding University of Calgary student academic programs. Table II, Appendix B, lists the cost per student in each of The University of Calgary student academic programs as determined by the methodology of this cost study.

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THE UNIVERSITY OF BRITISH COLUMBIA
RELATIVE COSTS OF STUDENT ACADEMIC PROGRAM CATEGORIES
1969/70-1972/73

UNDERGRADUATE:

EU WEIGHTS	PROGRAM CATEGORIES	YEAR 1 69/70	70/71	71/72	72/73	YEAR 2 69/70	70/71	71/72	72/73	YEAR 3 69/70	70/71	71/72	72/73	YEAR 4 69/70	70/71	71/72	72/73
1.0	General Arts & Science	-	1.0	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-
	1st, 2nd & 3rd Year Pass Arts	1.0	0.9	1.1	1.0	1.0	1.0	1.0	1.0	1.3	1.1	1.2	1.2	-	-	-	-
	1st, 2nd & 3rd Year Pass Science	1.2	1.4	1.9	2.3	1.3	1.3	1.2	1.2	1.5	1.6	1.5	1.4	-	-	-	-
	1st Year Honors Arts	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1st Year Honors Science	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1st & 2nd Year Agriculture	1.2	1.1	1.1	1.1	1.5	1.3	1.3	1.2	-	-	-	-	-	-	-	-
	1st & 2nd Year Household Economics	1.1	1.1	1.0	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-
	1st & 2nd Year Nursing	-	2.1	1.8	1.2	-	-	2.2	2.0	-	-	-	-	-	-	-	-
	Social Welfare[1]	-	-	1.1	1.1	-	-	1.2	1.2	-	-	1.0	1.2	-	-	-	-
1.5	Fine Arts	1.5	1.4	1.1	1.1	1.9	1.5	1.4	1.4	2.7	1.9	1.7	1.5	4.2	2.2	2.0	1.7[2]
	Economics	1.0	0.8	0.9	0.8	1.0	0.7	0.9	0.7	0.9	0.6	0.9	0.8	1.3	0.8	1.0	1.0[2]
	Physical Education	1.6	1.3	1.5	1.5	1.7	1.3	1.5	1.5	1.8	1.4	1.7	1.7	-	2.6	1.8	4.8
	1st & 2nd Year Education	1.1	1.1	1.1	1.0	1.2	1.0	1.1	1.0	-	-	-	-	-	-	-	-
	1st & 2nd Year Engineering	1.8	2.1	2.1	1.6	2.1	2.1	2.3	1.7	-	-	-	-	-	-	-	-
	2nd, 3rd & 4th Year Honors Arts	-	-	-	-	1.2	1.2	1.5	1.1	2.4	2.0	2.4	1.4	2.5	2.6	3.2	2.8[3]
	4th Year Pass Arts	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	1.7	1.6[3]
	4th Year Pass Science	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	2.2	1.9[3]
2.0	Music	2.2	1.6	1.7	1.4	3.9	2.0	1.9	1.9	4.3	2.6	2.5	2.0	3.8	3.9	3.1	2.1
	Pharmacy	1.3	1.1	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-
	2nd, 3rd & 4th Year Honors Science	-	-	-	-	1.7	1.8	1.4	1.3	2.3	2.3	2.5	1.8	3.2	2.9	3.9	3.2[3]
	3rd & 4th Year Education	-	-	-	-	-	-	-	-	1.3	1.0	1.1	1.1	1.4	1.2	1.2	1.1[3]
	3rd & 4th Year Nursing	-	-	-	-	-	-	-	-	-	-	2.3	1.7	-	-	2.3	1.2
	Education Diploma	1.8	1.9	1.9	1.4	-	-	-	-	-	-	-	-	-	-	-	-
3.0	3rd & 4th Year Engineering	-	-	-	-	-	-	-	-	2.8	2.1	2.4	2.3	4.1	3.2	2.9	2.2[3]

GRADUATE:

EU WEIGHTS	PROGRAM CATEGORIES	MASTERS 69/70	70/71	71/72	72/73	LOWER DOCTORAL 69/70	70/71	71/72	72/73	UPPER DOCTORAL 69/70	70/71	71/72	72/73
2.0	Social Welfare (MSW)	4.4	3.7	2.4	1.8	-	-	-	-	-	-	-	-
	Social Welfare (MA)	-	-	3.0	2.3	-	-	-	-	-	-	-	-
3.0	Arts	4.9	3.5	3.9	3.2	4.6	3.3	5.7	4.2	-	-	-	-
	Education	4.0	3.4	3.2	2.9	4.4	4.2	3.2	-	-	-	-	-
4.0	Science (MSC)	5.3	4.3	4.1	4.4	-	-	-	-	-	-	-	-
	Science (MA)	3.9	2.9	2.8	3.0	-	-	-	-	-	-	-	-
	Science	-	-	-	-	7.7	3.8	4.1	4.9	-	-	-	-
	Engineering	5.8	4.3	3.5	4.0	4.8	4.3	4.0	3.5	-	-	-	-
6.0	Arts	-	-	-	-	-	-	-	-	4.5	2.8	3.3	3.5
	Education	-	-	-	-	-	-	-	-	4.8	4.0	4.1	3.7
	Engineering	-	-	-	-	-	-	-	-	4.4	3.1	3.1	3.4
	Science	-	-	-	-	-	-	-	-	5.0	4.0	3.6	3.7

[1] As a result of revisions to the instruction level criteria for 1971/72, the results of 1970/71 have been adjusted to facilitate comparisons. In the 1969/70 study instruction levels were determined by assigning each course to a given level rather than by grouping courses based on the course numbering system per Table I and hence cannot be adjusted to reflect the new criteria.

[2] Years previous to 1972/73, Social Welfare enrolment unit weight was 1.5.

[3] Includes all "specials" for 1972/73 as specials are no longer assigned a year but receive the same enrolment unit weight as 4th year. For

ORE 103
7/74

TABLE IV

THE UNIVERSITY OF CALGARY COST STUDY
COSTS PER STUDENT ACADEMIC PROGRAM CATEGORY
1969-70-1972/73

UNDERGRADUATE:

EU WEIGHTS	PROGRAM CATEGORIES	YEAR 1 69/70	70/71	71/72	72/73	YEAR 2 69/70	70/71	71/72	72/73	YEAR 3 69/70	70/71	71/72	72/73	YEAR 4 69/70	70/71	71/72	72/73
1.0	General Arts & Science	-	1868	2015	2383	-	-	-	-	-	-	-	-	-	-	-	-
	1st, 2nd & 3rd Year Pass Arts	1562	1739	2174	2168	1627	1765	2237	2235	1993	2239	2490	2723	-	-	-	-
	1st, 2nd & 3rd Year Pass Science	1763	2525	3174	5319	2019	2468	2469	2733	2354	2999	3051	3324	-	-	-	-
	1st Year Honors Arts	1658	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1st Year Honors Science	6764	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1st & 2nd Year Agriculture	1921	2272	2702	2664	2933	2852	2667	2757	-	-	-	-	-	-	-	-
	1st & 2nd Year Household Economics	1604	1954	1974	2320	1467	-	-	-	-	-	-	-	-	-	-	-
	1st & 2nd Year Nursing	-	3762	3592	3720	-	-	3839	3695	-	-	1989	2935	-	-	-	-
	Social Welfare[1]	-	-	2101	2492	-	-	2493	2728	-	-	-	-	-	-	-	-
1.5	Fine Arts	2384	2539	2857	2937	2944	2782	2738	3031	4151	3669	3361	3439	6421	4126	3596	4045[2]
	Business	1497	1513	1774	1789	1539	1352	1717	1716	1403	1402	1771	1965	1953	1557	2178	2453
	Physical Education	2410	2350	3094	3636	2568	2369	3032	3803	2761	2627	3372	3978	-	4736	3965	11202
	1st & 2nd Year Education	1641	2064	2116	2261	1788	1923	2071	2256	-	-	-	-	-	-	-	-
	1st & 2nd Year Engineering	2830	3393	4193	3817	3161	3802	4670	4139	-	-	-	-	-	-	-	-
	2nd, 3rd & 4th Year Honors Arts	-	-	-	-	1863	2221	3329	2635	1538	3689	4755	3316	3870	4770	6456	5552[2]
	4th Year Pass Arts	-	-	-	-	-	-	-	-	-	-	-	-	-	2754	3542	3467[2]
	4th Year Pass Science	-	-	-	-	-	-	-	-	-	-	-	-	-	4237	4423	4915[2]
2.0	Music	3336	2943	3348	3386	5941	3772	3891	4386	6548	4720	5140	4718	5803	7246	6221	5034
	Pharmacy	1979	2047	2005	2290	-	-	-	-	-	-	-	-	-	-	-	-
	2nd, 3rd & 4th Year Honors Science	-	-	-	-	2956	3330	2680	2979	3903	4204	5056	4129	4915	5403	7348	7794[2]
	3rd & 4th Year Education	-	-	-	-	-	-	-	-	2021	1659	2176	2486	2223	2249	2416	2564[2]
	3rd & 4th Year Nursing	-	-	-	-	-	-	-	-	-	-	4481	4021	-	-	4553	2732
	Education Diploma	2729	3297	3170	3181	-	-	-	-	-	-	-	-	-	-	-	-
3.0	3rd & 4th Year Engineering	-	-	-	-	-	-	-	-	4379	3890	4939	5344	6356	5328	5870	5232

GRADUATE:

EU WEIGHTS	PROGRAM CATEGORIES	MASTERS 69/70	70/71	71/72	72/73	LOWER DOCTORAL 69/70	70/71	71/72	72/73	UPPER DOCTORAL 69/70	70/71	71/72	72/73
2.0	Social Welfare (MSW)	6803	6837	4743	4269	-	-	-	-	-	-	-	-
	Social Welfare (MS)	-	-	5953	5428	-	-	-	-	-	-	-	-
3.0	Arts	7418	6523	7247	7615	7054	6101	11411	9141	-	-	-	-
	Education	6179	6230	6446	6566	6382	7690	6452	-	-	-	-	-
4.0	Science (MSC)	8239	7915	8331	10443	-	-	-	-	-	-	-	-
	Science (MS)	6033	5420	5550	6936	-	-	-	-	-	-	-	-
	Science	-	-	-	-	11694	7090	8240	11527	-	-	-	-
	Engineering	8936	7908	7155	9410	7428	8004	8081	8120	-	-	-	-
6.0	Arts	-	-	-	-	-	-	-	-	6301	5216	6585	10453
	Education	-	-	-	-	-	-	-	-	7651	7410	8260	8592
	Engineering	-	-	-	-	-	-	-	-	6809	5737	6353	7970
	Science	-	-	-	-	-	-	-	-	7745	7323	7324	8684

[1] Years previous to 1972/73, Social Welfare enrolment unit weight was 1.5.

[2] Includes all "specials" for 1972/73 as specials are no longer assigned a year but receive the same enrolment unit weight as 4th year. For previous years, specials are broken down by year.

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TABLE V

THE UNIVERSITY OF [illegible] STUDY
NUMBER OF [illegible] STUDENTS FOR
STUDENT ACADEMIC PROGRAM CATEGORY
[illegible]-1972/73

UNDERGRADUATE:

EU WEIGHTS	PROGRAM CATEGORIES	YEAR 1 69/70	70/71	71/72	72/73	YEAR 2 69/70	70/71	71/72	72/73	YEAR 3 69/70	70/71	71/72	72/73	YEAR 4 69/70	70/71	71/72	72/73
1.0	General Arts & Science	-	1269	1279	1172	-	-	-	-	-	-	-	-	-	-	-	-
	1st, 2nd & 3rd Year Pass Arts	556	74	18	2	643	634	583	479	569	693	659	582	-	-	-	-
	1st, 2nd & 3rd Year Pass Science	418	16	14	1	459	497	569	579	304	433	498	429	-	-	-	-
	1st Year Honors Arts	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1st Year Honors Science	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1st & 2nd Year Agriculture	21	14	14	15	8	6	12	7	-	-	-	-	-	-	-	-
	1st & 2nd Year Household Economics	17	11	11	10	4	-	-	-	-	-	-	-	-	-	-	-
	1st & 2nd Year Nursing	-	59	20	53	-	-	46	29	-	-	-	-	-	-	-	-
	Social Welfare[1]	-	-	65	70	-	-	66	75	-	-	2	65	-	-	-	-
						52	90	72	67	23	32	61	52	11	23	23	51[2]
																	134[2]
1.5	Fine Arts	79	87	72	74	172	198	211	213	121	132	143	178	70	106	114	134
	Business	176	239	248	244	121	132	122	102	109	137	143	123	-	3	1	1
	Physical Education	113	115	115	71	178	172	175	181	-	-	-	-	-	-	-	-
	1st & 2nd Year Education	504	450	353	300	578	572	475	381	-	-	-	-	-	-	-	-
	1st & 2nd Year Engineering	275	219	186	197	143	162	143	137	-	-	-	-	-	-	-	-
	2nd, 3rd & 4th Year Honors Arts	-	-	-	-	37	31	27	23	29	23	31	37	44	47	37	34
														-	36	28	31[2]
														-	28	23	22[2]
	4th Year Pass Arts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5th Year Pass Science	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27	46	41	55	14	43	33	33	7	16	26	31	10	5	15	21
2.0	Music	6	10	23	13	-	-	-	-	-	-	-	-	-	-	-	-
	Pharmacy																
	2nd, 3rd & 4th Year Honors Science	-	-	-	-	48	48	49	48	34	29	32	41	70	59	43	28[2]
										623	684	398	491	295	301	346	649[2]
	3rd & 4th Year Education	-	-	-	-	-	-	-	-	-	-	1	35	-	-	1	1
	3rd & 4th Year Nursing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
	Education Diploma	19	11	10	-	-	-	-	-	111	153	143	118	86	104	113	119
3.0	3rd & 4th Year Engineering	-	-	-	-	-	-	-	-								

GRADUATE:

EU WEIGHTS		MASTERS 69/70	70/71	71/72	72/73	LOWER DOCTORAL 69/70	70/71	71/72	72/73	UPPER DOCTORAL 69/70	70/71	71/72	72/73
2.0	Social Welfare (KSW)	49	56	67	63	-	-	-	-	-	-	-	-
	Social Welfare (NA)	-	-	5	11	-	-	-	-	-	-	-	-
3.0	Arts	125	160	146	132	7	4	3	3	-	-	-	-
	Education	124	122	116	109	3	4	1	-	1	-	-	-
4.0	Science (HSG)	159	148	141	139	-	-	-	-	-	-	-	-
	Science (NA)	29	29	32	30	-	-	-	-	-	-	-	-
	Science	-	-	-	-	12	18	8	3	-	-	-	-
	Engineering	56	68	56	45	6	5	1	1	-	-	-	-
6.0	Arts	-	-	-	-	-	-	-	-	22	24	20	16
	Education	-	-	-	-	-	-	-	-	16	12	18	22
	Engineering	-	-	-	-	-	-	-	-	50	61	65	45
	Science	-	-	-	-	-	-	-	-	121	128	135	127

[1] Years previous to 1972/73, Social Welfare enrolment unit weight was 1.5.

[2] Includes all "specials" for 1972/73 as specials are no longer assigned a year but receive the same enrolment unit weight as 4th year. For previous years, specials are broken down by year.

program is a measure of the cost of the output of the instruction program. The University of Calgary undertakes other programs such as Research and Service with each having its own unique costs and outputs.[1] However, to cost all programs and their associated outputs at the University would require an alternative costing methodology such as has been used in the recent translation of The University of Calgary operating budget into a program format.[2] The methodology used in this study has been selected with due consideration to the purposes of the study. The identification of alternative purposes would likely necessitate the use of an alternative methodology.

Additionally, the reader should consider the following in interpreting the results of the study:

a) Changes in per unit cost may be attributed to changes in the academic components of the constituent elements of the program as well as increased or decreased expenditures per program.

b) The unit cost data produced by the study is not necessarily valid with respect to greater or lesser levels of output or to changes in student mix.

The University of Calgary Cost Study has had a number of spin-off effects with respect to the University's information systems. For example, development of forms and procedures of the Annual Report of Faculty Member has been influenced by the data requirements of the Cost Study. Recent revisions to these reports have made cost study data requirements compatible with those needed for the annual assessment of faculty by promotions committees.

The cost study has also affected the framework for the natural evolution of the necessary coordination and integration of information systems. The experience gained in using university systems such as the student

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[1] The University of Calgary Academic Plan September 1972-September 1976, approved by General Faculties Council, June 15 and 22, 1972.

[2] Office of Institutional Research, Methodology for Academic Program Analysis, Report 95 (Calgary: The University of Calgary, May 1973); Translation of the 1973/74 Fiduciary Operating Budget into a Program Format, Report 98 (Calgary: The University of Calgary, August 1973).

information system has led to a series of recommendations designed to establish advisory committees responsible for the development and evaluation of policies, regulations, systems and procedures for specific information systems and to orchestrate implications and recommendations of the advisory committees or other information systems.[1]

The cost study has also assisted in the orientation of the university community to the use and benefits of modern management tools and techniques. For example, development of the budget allocation formula now being used in the University was enhanced by experience gained during the cost study.[2] Also, concepts of program budgeting have been widely understood on campus and this has assisted in the implementation of the current budget formula and of the use of the Resource Requirements Prediction Model developed by the National Center for Higher Education Management Systems at the Western Interstate Commission for Higher Education in the recent translation of The University of Calgary operating budget into a program format.[3]

As these cost studies are continued in the future, additional spin-offs will result. Some of the more important of these in the near future are likely to be in academic planning. As the University continually modifies its academic plan to meet changing circumstances, so will the need for types of cost information change. Many of the costing concepts necessary to support cost analyses of academic planning will have been learned through the course of cost studies reported herein.

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[1] Office of Institutional Research, University Information Systems, Report 79 (Calgary: The University of Calgary, June 1972).

[2] A brief description of this formula is contained in: Office of Institutional Research, Experimental Planning Models in the University Budgeting Process, Report 90 (Calgary: The University of Calgary, February 1973).

[3] Bernard S. Sheehan and Mervin G. Michaels, "Academic Program Analysis for Budgeting," Public Policy: Issues and Analyses--Proceedings of the Fourteenth Annual Forum, ed. Robert G. Cope, in press.

APPENDIX A

QUESTIONNAIRES

The University of Calgary

ANNUAL REPORT OF FACULTY MEMBER 1972-73

INFORMATION AND INSTRUCTIONS

GENERAL

The Annual Report is primarily a vehicle for recording activities and contributions of faculty members in connection with the annual assessment by promotions committees. In addition, the material on "Publications" is printed in the *Annual Report* of the University, and the information on percentage time distribution is used in aggregation in the University Cost Study.

With the exception of the "Publications" section, completed Reports are *confidential* to Department Heads, Deans/Directors, Promotions Committees and the President's Office. The data extracted for the Cost Study are transmitted in aggregated and anonymous form.

The Report is organized around the three major criteria for appointment and promotion as set out in the *Handbook for Faculty*, Part One, Section 2. Should the space provided be insufficient for your response, please continue on a separate sheet.

The reporting period for this Annual Report is July 1, 1972 to August 31, 1973. This is a transitional measure to effect a change in the reporting period from July 1 - June 30 to September 1 - August 31, the latter being the period used by promotions committees for merit increment and promotion assessment. The Report is to be completed by the *end of September*, and submitted to your Department Head, who will forward copies to the Dean and the President. In the case of joint appointments, only one Report is required, but the staff member should ensure that a copy is lodged with each Department Head concerned.

Staff members who were on *sabbatical leave* during the reporting period should use this Report to provide an outline of their activities during the leave period. (No additional sabbatical report will be requested.)

A proposal is currently being developed to add the Research Inventory to the Annual Report, thereby eliminating double reporting of research activity. While this will likely be completed for the 1973-74 Report, you are requested to provide information on research projects and grants at this time.

The *Cost Study* requires an estimate of how faculty members distributed their time during the reporting period across certain activities as they are grouped on the Report form. Since the study is concerned with costs related to the regular session, time distribution estimates should not include Spring/Summer or Evening Credit teaching.

NOTES

The following notes are provided to assist in completion of the Report. They are referred to at specific points on the form.

Section I - Teaching

1. Using timetable course designations, list all courses (i.e. Courses of Instruction described in the *Calendar*) in which you were *regularly* involved.
2. Include in average hours per week *all aspects of your involvement* except graduate student supervision and/or examination. The comments section may be used to indicate the nature of your teaching involvement, e.g. exclusive, alternating, shared.
3. List all students for whom you served as supervisor or as a member of the supervisory or examining committee. Indicate those students for whom you were official supervisor with (s) following their names.
4. Report the date supervisory involvement began even when it preceded the reporting period. Average hours per week should include *all aspects of supervisory involvement* during the reporting period.
5. List all *university-level* teaching in which you participated during the Spring/Summer sessions, including teaching at other universities.

Section II - Scholarship, Research and Other Creative Activity

6. *Briefly summarize* your involvement in scholarship, research and other creative activity during the reporting period.

7. Using the following categories, list publications, etc. related to your scholarship, research and other creative activity which *appeared during the reporting period* (including those previously reported as "in press").

   (a) Books or monographs of which you are author or co-author; signed chapters in books of multiple authorship; books to which you have contributed editorial service.

   (b) Papers embodying original research or scholarship (including papers presented at conferences); articles or review articles in learned or professional journals of national or international reputation.

   (c) Exhibitions (one-man or collective); performances (concerts, recitals, etc.); dramatic or cinematographic productions; recordings; creative writing (short stories, etc.)

   In the interest of uniformity and general intelligibility, you are asked to cite publications according to the following plan:

   (a) For books and monographs: authors' names in the same order as on the publication itself; title of book underlined, place of publication; publisher; date; number of pages (introduction and text)

   Example:

   Dawson, W.F. Procedure in the Canadian House of Commons, Canadian Government Series, vol. 12. Toronto: University of Toronto Press, 1972. xv, 272 pp.

   (b) For articles: authors' names in the same order as on the publication itself; title of article in quotation marks; name of periodical underlined and spelled out in full; volume of periodical; number, month and year; page(s) on which the article is to be found.

   Examples:

   Hunka, S. "Teaching Technics and Programming." Alberta Journal of Educational Research, vol. 9, no. 1, March 1971, pp. 168-175.

   Pene Pare, I. Review: "French Existentialism." By F.T. Kingston. Dalhousie Review, vol. 42, no. 1, Spring 1973, p. 95.

   Material include in this section will be published in the University *Annual Report* and should be restricted to research work *related to your discipline*. Other publications, casual talks, etc., should be included under Other Activities.

8. List publications which are in press (not those in preparation). Material listed here will not be published in the University *Annual Report*.

Section III - Service

9. Other activities may include membership in public bodies related to university work, offices held in professional or technical associations, consulting, lectures and addresses not included as "publications", public and community service in various forms, etc.

THE UNIVERSITY OF CALGARY

ANNUAL REPORT OF FACULTY MEMBER 1972-1973

(Notes referred to are included in the attached "Information and Instructions")

Name _____ Present Rank: _____

Dept. _____ Faculty or School: _____

SECTION I — TEACHING (see **Handbook for Faculty** Part One Section 2.2)

A. Courses of Instruction — Regular Fall Winter Sessions

COURSE (see note 1)					INVOLVEMENT (see note 2)		% time
name and number	[illegible]	section #	[illegible]	enrolment	average hours per week	comments on nature of involvement	

B. Graduate Student Supervision and/or Examination

STUDENT (see note 3)		INVOLVEMENT (see note 4)			% time
name	degree sought and major	duration from	duration to	average hours per week	
UPPER LEVEL DOCTORATE					
MASTERS AND FIRST YEAR DOCTORATE					

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7/74

C. Evening Credit

COURSES (see note 1)				INVOLVEMENT (see note 2)	
name and number	[illegible]	[illegible]	enrollment	[illegible]	comments on nature of involvement

D. Spring/Summer Sessions

course name and number (see note 5)	where taught (if not U. of C.)

E. Other Teaching (e.g. Continuing Education)

SECTION II — SCHOLARSHIP, RESEARCH AND OTHER CREATIVE ACTIVITY

(See **Handbook for Faculty** Part One Section 2.3)

A. Summary of Projects (see note 6)

B. Grants Held

granting body	amount	duration		project (refer to part A)
		from	to	

C. Publications, etc., During the Reporting Period

This section will be used by the typesetter. Entries must be legible and in correct form (see note 7).

BOOKS AND MONOGRAPHS

ARTICLES, PAPERS, REVIEWS

PERFORMANCES, EXHIBITIONS, PRODUCTIONS, CREATIVE WRITING

D. Publications In Press (see note 8)

E. Other Scholarly Activity (e.g. editorship of a journal)

% of time related to all scholarship, research and other creative activity	

SECTION III — SERVICE (see **Handbook for Faculty**, Part One Section 2.4)

A. Contributions to University Academic Government, Administration

nature of involvement (position held, committee, etc.)	duration of involvement: from	to	% time
UNIVERSITY LEVEL			
FACULTY/SCHOOL LEVEL			
DEPARTMENTAL LEVEL			

B. Other Activities (see note 9)

% of time related to above Other Activities	

Total should not exceed 100

date

signature

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7/74

OIR 15
4/71

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INSTRUCTION ACTIVITY REPORT

GRADUATE TEACHING ASSISTANTS

DEPARTMENT _____

NAME	FTE	COURSE		SECTION		PERCENT TIME
		NAME	NUMBER	TYPE	NUMBER	

DATE _____ DEPARTMENT HEAD _____

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7/74

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ACTIVITY REPORT

POSTDOCTORAL TEACHING FELLOW

DEPARTMENT _____

NAME	FTE	COURSE NAME	COURSE NUMBER	LECTURE TYPE	LECTURE HOURS	PERCENT TIME

DATE _____ DEPARTMENT HEAD _____

OIR 101
7/74

45

APPENDIX B

UNIT COSTS OF STUDENT ACADEMIC PROGRAMS

TABLE I

THE UNIVERSITY OF CALGARY'S STUDENT ACADEMIC PROGRAMS
INCLUDED IN EACH ENROLMENT UNIT CATEGORY
1972/73

ENROLMENT UNIT CATEGORY — EU WEIGHT	UNDERGRADUATE PROGRAM CATEGORY	THE UNIVERSITY OF CALGARY'S STUDENT ACADEMIC PROGRAMS — FACULTY	DEGREE	MAJOR	YEAR
1.0	General Arts & Science	Arts & Science	-	-	1
	Pass Arts 1	Arts & Science	VIS	A	1
	Pass Arts 2	Arts & Science	BA 15	TOTAL	2
		"	BA 20	TOTAL	2
		"	BA 20A	TOTAL	2
		"	BALLB	-	2
		"	VIS	A	2
	Pass Arts 3	Arts & Science	BA 15	TOTAL	3
		"	BA 15A	TOTAL	3
		"	BA 20	TOTAL	3
		"	BA 20A	TOTAL	3
		"	VIS	A	3
	Pass Science 1	Arts & Science	BSC 15	TOTAL	1
	Pass Science 2	Arts & Science	BSC 15	TOTAL	2
		"	BSC 20	TOTAL	2
		"	BSC 20A	TOTAL	2
		"	VIS	S	2
	Pass Science 3	Arts & Science	BA 15	TOTAL	3
		"	BSC 20	TOTAL	3
		"	BSC 20A	TOTAL	3
		"	VIS	S	3
	Agriculture 1	Arts & Science	-	PVET	1
	Agriculture 2	Arts & Science	-	PVET	2
	Household Economics 1	Arts & Science	-	HHEC	1
	Nursing 1	Nursing	BN	-	1
	Nursing 2	Nursing	BN	-	2
	Social Welfare 1	Social Welfare	BSW	-	1
		"	SPC	-	1
	Social Welfare 2	Social Welfare	BSW	-	2
		"	BSWA	-	2
		"	SPC	-	2
	Social Welfare 3	Social Welfare	BSW	-	3
		"	BSWA	-	3
		"	SPC	-	3
1.5	Pass Arts 4	Arts & Science	BA 20	TOTAL	4
		"	BA 20A	TOTAL	4
		"	SPC	A	
		"	VIS	A	4
	Pass Science 4	Arts & Science	BSC 20	TOTAL	4
		"	BSC 20A	TOTAL	4
		"	SPC	S	
		"	VIS	S	4
	Honors Arts 2	Arts & Science	BA2OH	TOTAL	2
	Honors Arts 3	Arts & Science	BA2OH	TOTAL	3
	Honors Arts 4	Arts & Science	BA2OH	TOTAL	4
	Business 1	Business	BCOMM	TOTAL	1
		"	BCOMMA	TOTAL	1
		"	VIS	-	1
	Business 2	Business	BCOMM	TOTAL	2
		"	BCOMMA	TOTAL	2
		"	VIS	-	2
	Business 3	Business	BCOMM	TOTAL	3
		"	BCOMMA	TOTAL	3
		"	VIS	-	3
	Business 4	Business	BCOMM	TOTAL	4
		"	BCOMMA	TOTAL	4
		"	SPC	-	
		"	VIS	-	4
	Education 1	Education	BED	TOTAL	1
		"	VIS	-	1

ENROLMENT UNIT CATEGORY — EU WEIGHT	UNDERGRADUATE PROGRAM CATEGORY	THE UNIVERSITY OF CALGARY'S STUDENT ACADEMIC PROGRAMS — FACULTY	DEGREE	MAJOR	YEAR
1.5	Education 2	Education	BED	TOTAL	2
		"	VIS	-	2
	Engineering 1	Engineering	BSC	TOTAL	
		"	BSC A	TOTAL	1
		"	VIS	-	1
	Engineering 2	Engineering	BSC	TOTAL	2
		"	BSC A	TOTAL	2
		"	VIS	-	2
	Fine Arts 1	Fine Arts	BFA	TOTAL	1
		"	BFA A	TOTAL	1
		"	VIS	A	1
		"	VIS	D	1
	Fine Arts 2	Fine Arts	BFA	TOTAL	2
		"	BFA A	TOTAL	2
		"	VIS	A	2
		"	VIS	D	2
	Fine Arts 3	Fine Arts	BFA	TOTAL	3
		"	BFA A	TOTAL	3
		"	VIS	A	3
		"	VIS	D	3
	Fine Arts 4	Fine Arts	BFA	TOTAL	4
		"	BFA A	TOTAL	4
		"	SPC	A	
		"	SPC	D	
		"	VIS	A	4
		"	VIS	D	4
	Physical Education 1	Physical Education	BPE	-	1
		"	BPE A	-	1
		"	BPE M	-	1
		"	VIS	-	1
	Physical Education 2	Physical Education	BPE	-	2
		"	BPE A	-	2
		"	BPE M	-	2
		"	VIS	-	2
	Physical Education 3	Physical Education	BPE	-	3
		"	BPE A	-	3
		"	BPE M	-	3
		"	VIS	-	3
	Physical Education 4	Physical Education	BPE A	-	4
		"	BPE M	-	4
		"	SPC	-	
		"	VIS	-	4
2.0	Honors Science 2	Arts & Science	BSC2OH	TOTAL	2
	Honors Science 3	Arts & Science	BSC2OH	TOTAL	3
	Honors Science 4	Arts & Science	BSC2OH	TOTAL	4
	Pharmacy 1	Arts & Science	-	PHAR	1
	Education 3	Education	BED	TOTAL	3
		"	VIS	-	3
	Education 4	Education	BED	TOTAL	4
		"	BED A	TOTAL	
		"	SPC	-	
		"	VIS	-	4
	Education Diploma	Education	DIPED	TOTAL	
	Music 1	Fine Arts	BMUS	-	1
		"	VIS	M	1
	Music 2	Fine Arts	BMUS	-	2
		"	VIS	M	2
	Music 3	Fine Arts	BMUS	-	3
		"	VIS	M	3

TABLE I

THE UNIVERSITY OF CALGARY'S STUDENT ACADEMIC PROGRAMS
INCLUDED IN EACH ENROLMENT UNIT CATEGORY (Continued)
10/2/73

ENROLMENT UNIT CATEGORY — UNDERGRADUATE —		THE UNIVERSITY OF CALGARY'S STUDENT ACADEMIC PROGRAMS			
EU WEIGHT	PROGRAM CATEGORY	FACULTY	DEGREE	MAJOR	YEAR
2.0	Music 4	Fine Arts	BMUS	-	4
		"	SPC	M	
		"	VIS	M	4
	Nursing 3	Nursing	BN	-	3
	Nursing 4	Nursing	BN	-	4
		"	SPC	-	
3.0	Engineering 3	Engineering	BSC	TOTAL	3
		"	BSC A	TOTAL	3
		"	VIS	-	3
	Engineering 4	Engineering	BSC	TOTAL	4
		"	BSC A	TOTAL	4
		"	SPC	-	
		"	VIS	-	4
	GRADUATE				
2.0	Social Welfare: Masters	Graduate Studies	MA	SOWK	
		"	MSW	SOWK	
3.0	Arts: Masters	Graduate Studies	MA	ANTH	
		"	MA	ECON	
		"	MA	ENGL	
		"	MA	FA ART	
		"	MA	GEOG	
		"	MA	HIST	
		"	MA	LING	
		"	MA	PHIL	
		"	MA	POLI	
		"	MA	RELI	
		"	MA	SOCI	
	Arts: Lower Doctoral	Graduate Studies	PHIL	PHIL	
	Education: Masters	Graduate Studies	MA	EDAD	
		"	MA	EDCI	
		"	MA	EDPS	
		"	MED	EDAD	
		"	MED	EDCI	
		"	MED	EDPS	
		"	MED	EDTE	
		"	MSC	EDCI	
		"	MSC	EDPS	
	Education: Lower Doctoral	Graduate Studies	PHDL	EDPY	
4.0	Science: Masters	Graduate Studies	MA	ANTH	
		"	MA	GEOG	
		"	MA	PSYC	

ENROLMENT UNIT CATEGORY — GRADUATE —		THE UNIVERSITY OF CALGARY'S STUDENT ACADEMIC PROGRAMS			
EU WEIGHT	PROGRAM CATEGORY	FACULTY	DEGREE	MAJOR	YEAR
4.0	Science: Masters	Graduate Studies	MSC	BIOL	
		"	MSC	CHEM	
		"	MSC	GEOG	
		"	MSC	GEGY	
		"	MSC	MATH	
		"	MSC	PHYS	
		"	MSC	PSYC	
		"	MSC	RESR	
	Science: Lower Doctoral	Graduate Studies	PHDL	ANTH	
		"	PHDL	CHEM	
		"	PHDL	GEGY	
		"	PHDL	MATH	
	Engineering: Masters	Graduate Studies	MENG	ENGM	
		"	MENG	ENCI	
		"	MENG	ENEL	
		"	MENG	ENME	
		"	MSC	ENCH	
		"	MSC	ENCI	
		"	MSC	ENEL	
		"	MSC	ENML	
	Engineering: Lower Doctoral	Graduate Studies	PHDL	ENEL	
6.0	Arts: Upper Doctoral	Graduate Studies	PHDU	ENGL	
		"	PHDU	PHIL	
		"	PHDU	POLI	
	Science: Upper Doctoral	Graduate Studies	PHDU	ANTH	
		"	PHDU	BIOL	
		"	PHDU	CHEM	
		"	PHDU	GEOG	
		"	PHDU	GEGY	
		"	PHDU	MATH	
		"	PHDU	PHYS	
		"	PHDU	PSYC	
	Education: Upper Doctoral	Graduate Studies	PHDU	EDAD	
		"	PHDU	EDCI	
		"	PHDU	EDPN	
		"	PHDU	EDPS	
	Engineering: Upper Doctoral	Graduate Studies	PHDU	ENCH	
		"	PHDU	ENCI	
		"	PHDU	ENEL	
		"	PHDU	ENME	

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TABLE II

The University of Calgary
Cost Study 1972/73

UNDERGRADUATE
COST PER STUDENT ACADEMIC PROGRAM

FACULTY: ARTS AND SCIENCE

DEGREE MAJOR		FULL-TIME								PART-TIME							
		COSTS OF YEAR				STUDENTS OF YEAR				COSTS OF YEAR				STUDENTS OF YEAR			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
-	-	4323	-	-	-	1177	-	-	-	991	-	-	-	115	-	-	-
-	MUSIC	5320	-	-	-	15	-	-	-	692	-	-	-	2	-	-	-
-	PHYSICS	2220	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-
-	PSYCH	2604	2737	-	-	15	-	-	-	1336	613	-	-	2	-	-	-
-	T.E.D.	2322	4722	-	-	1210	2	-	-	692	533	-	-	114	-	-	-
33 15	ANTH	-	1946	2222	-	-	2	2	-	498	923	921	-	2	3	-	-
01 15	ART	-	-	1062	-	-	-	-	-	-	-	933	-	-	-	-	-
02 15	BIOL	-	1563	4452	-	-	2	2	-	-	384	957	-	-	1	11	-
03 15	CHEM	-	1751	3775	-	-	2	12	-	-	775	-	-	-	-	-	-
04 15	ECON	-	3123	4563	-	-	-	-	-	-	566	1253	-	-	2	7	-
05 15	GEOG	-	-	6051	-	-	-	-	-	-	659	1209	-	-	2	2	-
06 15	GEOL	-	4771	4334	-	-	-	1	-	-	3417	-	-	-	2	2	-
07 15	GERM	-	-	6044	-	-	-	-	-	-	-	806	-	-	-	-	-
08 15	HIST	-	-	-	-	-	-	-	-	-	-	564	-	-	-	-	-
09 15	MATH	-	-	1419	-	-	-	-	-	-	-	933	-	-	-	-	-
10 15	P.LIT	-	2704	2670	-	-	2	2	-	-	818	679	-	-	-	-	-
11 15	PHYS	-	4716	3532	-	-	2	2	-	-	-	672	-	-	-	-	-
12 15	POLS	-	-	3526	-	-	-	-	-	-	-	-	-	-	-	-	-
13 15	SOC	-	2160	2602	-	-	-	1	-	-	-	-	-	-	-	-	-
14 15	T.ENG	-	2135	2602	-	-	5	15	-	859	803	711	-	1	7	-	-
15 15A	ZOOL	-	-	1146	-	-	22	12	-	519	849	773	-	6	32	4	-
16 15A	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
17 15A	MISC	-	-	-	-	-	-	-	-	-	-	672	-	-	-	-	-
18 15A	T.ENG	-	-	1203	-	-	-	-	-	-	-	630	-	-	-	-	-
19 23	ANTH	-	-	3127	-	-	-	1	-	-	-	-	-	-	-	-	-
20 23	BIOL	-	2170	3779	5106	-	11	1	-	-	-	-	-	-	-	-	-
21 23	CHEM	-	4253	4446	3392	-	15	15	7	-	892	-	1917	-	-	-	-
22 23	CLASS	-	3353	-	-	-	6	-	-	-	-	-	-	-	-	-	-
23 23	ECON	-	2709	2658	4313	-	51	31	17	-	741	577	-	-	-	-	-
24 23	ENG	-	2709	2658	4313	-	51	26	12	-	838	621	1146	-	-	-	-
25 23	GEOG	-	4182	3667	2189	-	6	5	1	-	-	742	-	-	-	-	-
26 23	GEOL	-	4722	3402	6261	-	12	10	5	-	-	-	1509	-	-	-	-
27 23	GERM	-	3509	3659	4944	-	2	1	1	-	-	-	-	-	-	-	-
28 23	HIST	-	2435	2969	2457	-	9	5	2	-	-	-	-	-	-	-	-
29 23	MATH	-	2710	2702	3192	-	36	35	17	-	643	617	-	-	1	-	-
30 23	P.LIT	-	2710	2702	-	-	16	22	4	-	763	1521	914	-	1	-	-
31 23	PHIL	-	-	2702	-	-	-	1	-	-	-	-	-	-	-	-	-
32 23	PHYS	-	2170	3633	-	-	2	1	-	-	-	-	-	-	-	-	-
33 23	POLS	-	5075	2757	3109	-	12	5	1	-	741	1005	-	-	-	-	-
34 23	PSYCH	-	2460	2469	2327	-	4	5	2	-	-	-	-	-	-	-	-
35 23	SOC	-	2316	2702	3299	-	5	4	1	-	633	873	586	-	-	-	-
36 23	SPEC	-	4129	4341	3932	-	53	43	9	-	503	430	-	-	-	-	-
37 23	MISC	-	3135	5213	-	-	1	2	-	-	-	-	-	-	-	-	-
38 23	SUCH	-	2143	2606	5157	-	31	29	8	-	642	560	-	-	3	2	-

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TABLE II

FACULTY: ARTS AND SCIENCE

DISCIPLINE CODE		FULL-TIME COSTS BY YEAR				FULL-TIME STUDENTS BY YEAR				PART-TIME COSTS BY YEAR				PART-TIME STUDENTS BY YEAR			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
01	[illegible]	-	2280	-	-	-	1	-	-	-	1429	-	-	-	1	-	-
02	[illegible]	-	2502	2726	3924	-	444	247	77	-	771	674	1100	-	49	14	7
03	[illegible]	-	2376	2972	-	-	1	-	-	-	545	1392	-	-	1	1	-
04	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05	[illegible]	-	2152	1769	-	-	1	1	-	-	-	-	-	-	1	-	-
06	[illegible]	-	2430	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07	[illegible]	-	2502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08	[illegible]	-	1703	2190	-	-	1	-	-	-	411	331	-	-	1	1	-
09	[illegible]	-	-	-	-	-	-	-	-	-	-	5477	-	-	-	-	-
10	[illegible]	-	-	-	-	-	-	-	-	-	-	2274	-	-	-	1	-
11	[illegible]	-	-	-	-	-	-	-	-	-	743	-	-	-	-	-	-
12	[illegible]	-	3495	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	[illegible]	-	-	[illegible]	7131	-	-	-	-	-	-	361	-	-	-	1	-
14	[illegible]	-	-	1772	-	-	-	-	-	-	-	-	4963	-	-	-	1
15	[illegible]	-	2747	3103	5223	-	1	2	1	-	561	1252	4963	-	6	5	1
16	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
17	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
18	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
19	[illegible]	-	2333	2196	10439	-	2	1	-	-	-	-	-	-	-	-	-
20	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
21	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
22	[illegible]	-	-	-	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
23	[illegible]	-	2215	-	[illegible]	-	1	-	-	-	-	-	-	-	-	-	-
24	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
25	[illegible]	-	2467	[illegible]	[illegible]	-	1	-	-	-	-	-	-	-	-	-	-
26	[illegible]	-	2667	[illegible]	[illegible]	-	1	-	-	-	-	-	-	-	-	-	-
27	[illegible]	-	[illegible]	[illegible]	[illegible]	-	5	-	-	-	-	-	-	-	-	-	-
28	[illegible]	-	[illegible]	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
29	[illegible]	-	-	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-
30	[illegible]	-	2830	3319	9939	-	22	37	31	-	-	-	-	-	-	-	-
31	[illegible]	-	2804	-	-	-	2	-	-	-	-	-	-	-	-	-	-
32	[illegible]	9319	-	[illegible]	-	1	-	-	-	-	-	2144	-	-	-	-	-
33	[illegible]	-	-	[illegible]	-	-	-	-	-	-	-	[illegible]	-	-	-	-	-
34	[illegible]	-	3163	[illegible]	-	-	-	1	-	-	-	[illegible]	-	-	-	-	-
35	[illegible]	-	-	[illegible]	-	-	-	-	-	-	-	[illegible]	-	-	-	-	-
36	[illegible]	-	2843	[illegible]	-	-	-	1	-	-	1127	[illegible]	-	-	-	-	-
37	[illegible]	-	2903	[illegible]	-	-	-	1	-	-	[illegible]	[illegible]	-	-	-	-	-
38	[illegible]	-	-	[illegible]	-	-	-	-	-	-	-	[illegible]	-	-	-	-	-
39	[illegible]	-	-	-	-	-	-	-	-	-	668	[illegible]	-	-	1	-	-
40	[illegible]	-	-	-	-	-	-	-	-	-	-	[illegible]	-	-	-	-	-
41	[illegible]	-	2411	3267	-	-	2	1	-	-	-	[illegible]	-	-	-	-	-
42	[illegible]	-	2530	3178	-	-	1	1	-	-	-	[illegible]	-	-	-	-	-
43	[illegible]	9319	2619	3073	-	1	6	37	-	-	706	[illegible]	-	-	3	37	-

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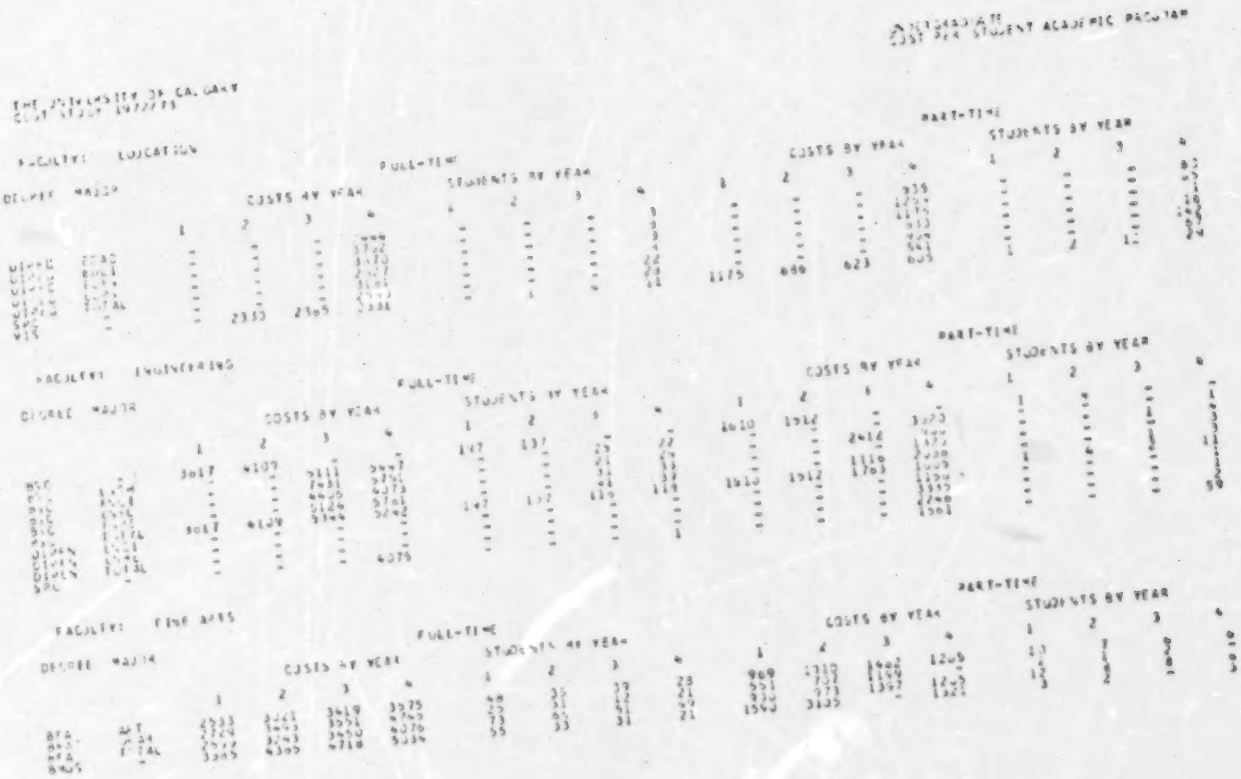

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TABLE II

THE UNIVERSITY OF CALGARY
COST STUDY 1972/73

UNDERGRADUATE
COST PER STUDENT ACADEMIC PROGRAM

FACULTY: FINE ARTS

DEGREE	MAJOR	FULL-TIME COSTS BY YEAR 1	2	3	4	FULL-TIME STUDENTS BY YEAR 1	2	3	4	PART-TIME COSTS BY YEAR 1	2	3	4	PART-TIME STUDENTS BY YEAR 1	2	3	4
BFA	A	-	-	-	2563	-	-	-	-	-	-	-	930	-	-	-	-
BFA	M	-	-	-	4011	-	-	-	-	-	-	-	1454	-	-	-	-
BFA	-	-	-	-	-	-	-	-	-	-	-	-	585	-	-	-	-
BFA	EXTRA	-	-	-	3280	-	-	-	-	-	-	-	618	-	-	-	-
BFA	O	3249	2433	2859	-	1	1	1	-	-	-	-	-	-	-	-	-

FACULTY: NURSING

DEGREE	MAJOR	FULL-TIME COSTS BY YEAR 1	2	3	4	FULL-TIME STUDENTS BY YEAR 1	2	3	4	PART-TIME COSTS BY YEAR 1	2	3	4	PART-TIME STUDENTS BY YEAR 1	2	3	4
BN	-	2720	4665	4029	2732	93	29	33	1	-	2769	-	486	-	1	-	-
SPC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FACULTY: PHYSICAL EDUCATION

DEGREE	MAJOR	FULL-TIME COSTS BY YEAR 1	2	3	4	FULL-TIME STUDENTS BY YEAR 1	2	3	4	PART-TIME COSTS BY YEAR 1	2	3	4	PART-TIME STUDENTS BY YEAR 1	2	3	4
BPE	M	3030	3043	3246	-	71	102	117	-	1237	1145	1176	-	4	2	12	-
SPC	-	-	-	4136	11202	-	-	4	1	-	-	1162	1301	-	-	1	1
BTA	-	-	-	4300	-	-	-	-	-	-	-	-	-	-	-	-	-

FACULTY: SOCIAL WELFARE

DEGREE	MAJOR	FULL-TIME COSTS BY YEAR 1	2	3	4	FULL-TIME STUDENTS BY YEAR 1	2	3	4	PART-TIME COSTS BY YEAR 1	2	3	4	PART-TIME STUDENTS BY YEAR 1	2	3	4
BSW	-	2443	2728	2926	-	72	75	59	-	676	1067	1206	-	3	2	8	-
BSW	A	-	-	2743	-	-	-	8	-	-	-	736	647	-	-	5	4
SPC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II

THE UNIVERSITY OF CALGARY — GRADUATE
COST STUDY 1972/73 — COST PER STUDENT ACADEMIC PROGRAM

FACULTY: GRADUATE STUDIES

DEGREE	MAJOR	FULL-TIME		PART-TIME	
		COSTS	STUDENTS	COSTS	STUDENTS
MA	ARTH	9497	11	1613	7
MA	ARTY	4970	19	1297	7
MA	ECON	7473	19	1241	13
MA	EDAD	6853	11	1912	5
MA	EDCI	7535	21	1263	15
MA	EDPS	7253	11	1487	4
MA	ENGL	8075	21	1532	11
MA	FA ART	13458	1	6371	3
MA	GEOG	10934	9	2141	3
MA	GERM	6955	6	-	-
MA	HIST	5449	23	943	7
MA	LING	7687	6	-	-
MA	PHIL	11158	5	2091	1
MA	POLI	8577	6	1159	4
MA	RELS	8428	2	2231	1
MA	SOST	6625	15	1139	1
MA	SOCI	7536	19	1477	14
MA	SPAN	5428	11	615	4
MA	TOTAL	7396	216	1362	110
MED	EDAD	7916	4	2097	18
MED	EDCI	5774	5	1251	22
MED	EDPS	5425	2	1537	5
MED	EDPS	5471	7	1243	36
MED	TOTAL	6071	18	1382	84
MENG	ENCH	-	-	3769	12
MENG	ENCI	-	-	2853	18
MENG	ENEL	-	-	4425	3
MENG	ENME	-	-	3165	5
MENG	TOTAL	-	-	3191	38
MSC	BIOL	7924	30	2201	3
MSC	CHEM	13732	15	4584	1
MSC	EDCI	7420	5	1139	4
MSC	EDPS	5096	43	1055	24
MSC	ENCH	7422	15	2433	1
MSC	ENCI	9344	11	-	-
MSC	ENEL	11269	13	3380	2
MSC	ENME	10733	7	-	-
MSC	GEOG	10266	14	2141	3
MSC	GEOP	7691	27	1528	4
MSC	MATH	11143	21	1632	11
MSC	PHYS	15598	12	5835	1
MSC	PSYC	12807	16	3412	7
MSC	RESS	7328	4	2201	1
MSC	TOTAL	9187	232	1772	62
MSW	SOWK	4269	63	1228	6
PERL	ARTY	3335	1	-	-
PERL	CHEM	18959	1	-	-
PHCL	EDPS	-	-	1601	1
PHCL	ENCI	8120	1	-	-
PHCL	GEOP	7296	1	2694	1
PHCL	MATH	-	-	2543	1
PHCL	PHIL	9941	3	-	-
PHCL	SOWK	-	-	3165	1
PHCL	TOTAL	10809	7	2499	4
PHDJ	ARTY	7389	8	1721	11
PHDJ	BIOL	6315	32	1083	4
PHDJ	CHEM	12331	33	-	-
PHDJ	EDAD	13708	2	1443	1
PHDJ	EDCI	13275	1	5761	1
PHDJ	EDEA	4957	2	-	-
PHDJ	EDPS	7547	17	3521	5
PHDJ	ENCH	10348	9	-	-
PHDJ	ENCI	5434	13	1444	1
PHDJ	ENEL	10367	10	3864	1
PHDJ	ENME	15337	1	-	-
PHDJ	FINA	7703	14	-	-
PHDJ	GEOG	3713	3	-	-
PHDJ	HIST	6198	13	2656	4
PHDJ	MATH	10042	17	2564	2
PHDJ	PHIL	5279	12	2044	4
PHDJ	PHYS	6784	11	-	-
PHDJ	POLS	11472	1	2451	2
PHDJ	PSYC	6946	16	1327	1
PHDJ	SOWK	-	-	704	2
PHDJ	TOTAL	8577	214	2192	44

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TABLE III

DEFINITIONS OF ACADEMIC PROGRAM DESIGNATIONS

DEGREE CODES AND DEGREE CODE DESIGNATIONS:

BA 15	Bachelor of Arts (three year pattern)
BA 15A	Bachelor of Arts (after previous three year degree)
BA 20	Bachelor of Arts (four year pattern)
BA 20A	Bachelor of Arts (after previous four year degree)
BA 20H	Bachelor of Arts (honors)
BALLB	Bachelor of Arts/Bachelor of Law
BCOMM	Bachelor of Commerce
BCOMMA	Bachelor of Commerce (after previous degree)
BED	Bachelor of Education
BED A	Bachelor of Education (after previous degree)
BEDIA	Bachelor of Industrial Arts
BFA	Bachelor of Fine Arts
BFA A	Bachelor of Fine Arts (after previous degree)
BMUS	Bachelor of Music
BMUS A	Bachelor of Music (after previous degree)
BN	Bachelor of Nursing
BPE	Bachelor of Physical Education
BPE A	Bachelor of Physical Education (after previous degree)
BPE H	Bachelor of Physical Education (honors)
BSC	Bachelor of Science (only in Engineering)
BSC A	Bachelor of Science (after previous degree) (only in Engineering)
BSC 15	Bachelor of Science (three year pattern)
BSC 15A	Bachelor of Science (after previous three year degree)
BSC 20	Bachelor of Science (four year pattern)
BSC 20A	Bachelor of Science (after previous four year degree)
BSC 20H	Bachelor of Science (honors)
BSW	Bachelor of Social Work
BSW A	Bachelor of Social Work (after previous degree)
DIPED	Graduate Diploma in Education
DIPEN	Graduate Diploma in Engineering
SPC	Special
VIS	Visiting
MA	Master of Arts
MED	Master of Education
MENG	Master of Engineering
MSC	Master of Science
MSW	Master of Social Work
PHDL	Doctor of Philosophy (lower level)
PHDU	Doctor of Philosophy (upper level)

MAJOR CODES AND MAJOR CODE DESIGNATIONS:

A	Arts (Arts and Science); Art (Fine Arts)
D	Drama (Fine Arts)
M	Music (Fine Arts)
S	Science (Arts and Science)
ACCT	Accounting
AMAT	Applied Mathematics
ANTH	Anthropology
ARKY	Archaeology
ART	Art
ASPH	Astrophysics
BCHM	Biochemistry
BIOL	Biology
BOTA	Botany
CHEM	Chemistry
CLAS	Classics
CPSC	Computing Science
DRAM	Drama
ECMA	Economics/Mathematics
ECON	Economics
EDAD	Educational Administration
EDCI	Educational Curriculum & Instruction
EDFN	Educational Foundations
EDPS	Educational Psychology
ENCH	Chemical Engineering
ENCI	Civil Engineering
ENEL	Electrical Engineering
ENGL	English
ENME	Mechanical Engineering
ELEM	Elementary Education
FN ART	Fine Arts (Graduate studies)
FNCE	Finance
FREN	French
FRGE	French and German Studies
GEOG	Geography
GERM	German
GLGY	Geology
GNST	General Studies
GOPH	Geophysics
GREK	Greek
GRMC	Germanic Studies
HMEC	Household Economics
HIST	History
LATI	Latin
LING	Linguistics
MATH	Mathematics
MGMT	Management
MGSC	Management Science
MIBI	Microbiology
MKTG	Marketing
MUSI	Music
PHAR	Pharmacy
PHIL	Philosophy
PHYS	Physics
PMSI	Pure Mathematics
POLI	Political Science
PSYC	Psychology
PVET	Preveterinary Medicine
RESR	Resources, The Environment and Planning
ROST	Romance Studies
RUSS	Russian
SECD	Secondary Education
SOCI	Sociology
SOWK	Social Work
SPAN	Spanish
STAT	Statistics
TOTAL	Total
ZOOL	Zoology
-	No Major designated

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